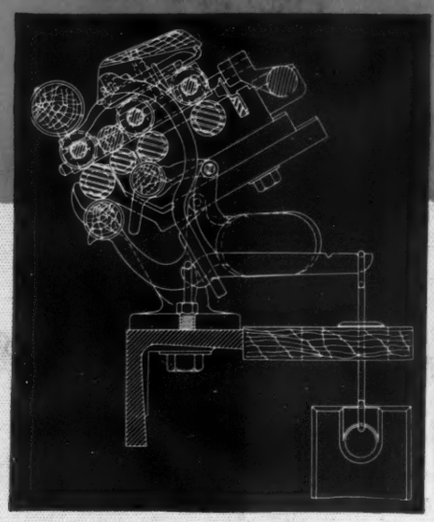
SEPTEMBER, 1934

COTTON

*Serving the*

TEXTILE INDUSTRIES


# NEARLY 200,000 SPINDLES INSTALLED IN ONE STATE ALONE WITHIN THE PAST YEAR



**Experience supports four roller long draft spinning's claim to efficiency, for there are over 8,000,000 spindles of this type in use throughout the world. But of more immediate importance is the fact that nearly 200,000 H & B spindles of this type were installed in one state alone in this country within the past year.**

This CURRENT TREND in the United States indicates that the four roller system is unsurpassed in performance and that this performance is receiving more and more widespread recognition in America.

H & B long draft efficiency is based on the fact that it eliminates operations, time and labor WITHOUT PENALTIES. That is, as regards simplicity, it more nearly approaches regular spinning than any other type of long draft equipment.

It gives free play to the fibres, so that the long fibres naturally work toward the core of the yarn, where they make for greater strength, while the shorter fibres work outward. Roller No. 2 performs the same function as do belts in other systems — it prevents sagging and controls the shorter fibres. At the same time fly (and other waste) has an opportunity to fall clear. It does not bunch up and is not carried into the yarn. The ultimate result is a strength, evenness and smoothness of product not ordinarilly associated with long draft spinning. Further information on request.

• •

**H & B AMERICAN MACHINE CO.**

*Cotton Preparatory and Spinning Machinery*

**PAWTUCKET, R. I.**

BOSTON OFFICE, 161 Devonshire Street

ATLANTA OFFICE, 815 Citizens and Southern Natl. Bank Bldg.

H&B

# FOUR ROLLER LONG DRAFT SYSTEM


Table of Contents, Page 33. **KNITTING SECTION, PAGE 93** Advertisers' Index, Page 132.

# YARNS

## WE DON'T TELL 'EM ...WE SELL 'EM

## YOU CAN ALWAYS DEPEND ON F. P. YARNS

Who cares whether yarns of hunting prowess are dependable or not? ¶ But with cotton yarns it is different. On them hinges the economy of manufacturing operations and the salability of merchandise. ¶ You can depend on Franklin Process yarn offerings, for they come from reputable spinners who standardize quality from one spinning to the next. ¶ These offerings include all popular counts and qualities (most of which are carried in stock), natural, bleached or colored, in almost any standard put-up. Recommendations, samples, prices on request.

FRANKLIN PROCESS COMPANY

Yarn Merchants and Yarn Dyers. Also Manufacturers of Glazed Yarns and Machines for Dyeing and Bleaching Yarns in the Package Form, Cotton and Wool Raw Stock, Worsted Tops and Worsted Yarn on Jackspools, also Machines for Soaking Silk. Main Office and Plant at Providence, R. I. Branch Plants at Philadelphia, Pa., Greenville, S. C., and Chattanooga, Tenn. New York Rep., 40 Worth Street

# FRANKLIN PROCESS

## COTTON YARNS AND CUSTOM YARN DYEING


COTTON is published monthly by W. R. C. Smith Publishing Co. Dalton and Atlanta, Ga. Subscription Rates, United States and Possessions, $1.00 for one year; $2.00 for three years; Canada, $1.50 per year; Foreign Countries, $2.00 per year. Entered as second-class matter at the postoffice, Dalton, Ga., under the Act of March 3, 1879.

# 2 New Draper Looms

## Will Make First Appearance at the Greenville Show

Come to the Greenville Show and See What the Draper Corporation Has Been Working on during the past Two Years

| | |
|---|---|
| 4 Years Ago | X Model High Speed Loom<br>20% More Cloth |
| 2 Years Ago | C Model Shuttle-Changer<br>for Rayons and Fine Cottons<br>R Model Duck Loom |
| This Year | XK Model High Speed Loom<br>for Dobby and Fancy Weaves<br>XL Model High Speed Loom<br>for Broad Sheetings |

## These 2 New Looms are 20% Faster

Than the K and L Model Looms They Replace—They Have All the X Model Features with Many Improvements and Special Devices Designed for Their Particular Range of Weaves

DRAPER CORPORATION

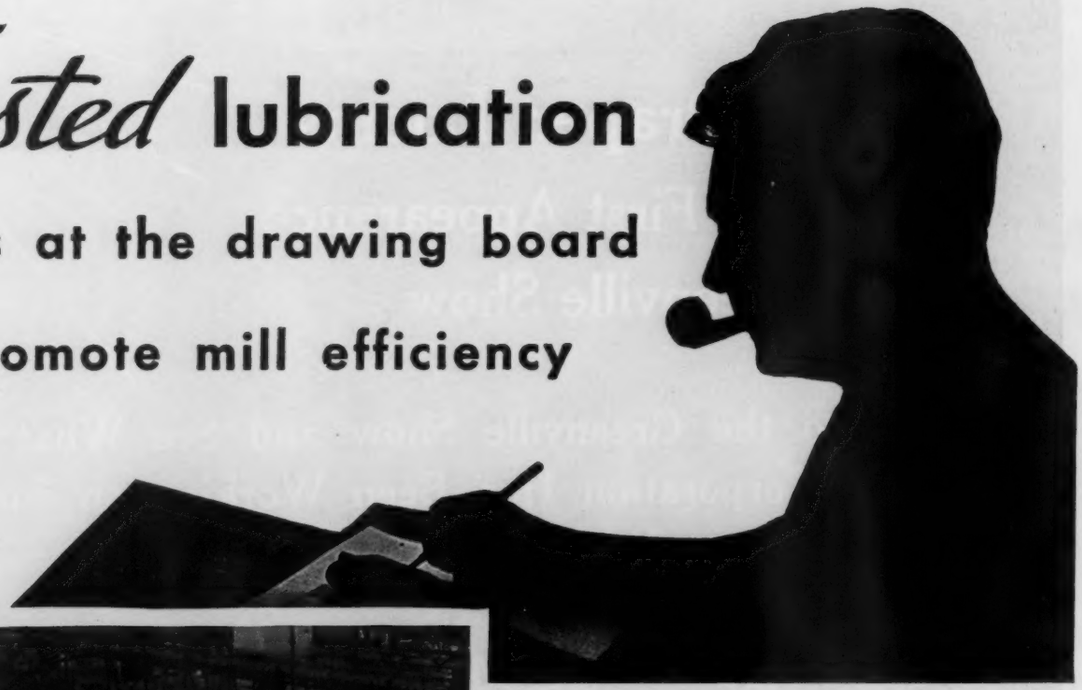
Hopedale Massachusetts

Southern Offices Atlanta Ga and Spartanburg S C

# *Tested* lubrication

## starts at the drawing board

## to promote mill efficiency



New high speed machinery—old machines speeded up—anti-friction bearings—automatic operations, are present day factors in greater mill efficiency with which Texaco *tested* Lubricants are closely identified. This is why Texaco *tested* Lubricants promote important dollar and cent efficiencies in many *textile mills just like yours.*

The knowledge and research facilities of Texaco Engineering Service is being used by many builders of textile machinery. The wide and specialized textile experience of Texaco Engineers is currently helpful to many plant operators in achieving new efficiencies—unexpected profits.

Even a slight increase in operating efficiency may make a big difference in profit. It will pay you to talk with a Texaco man—or write to The Texas Company about Texaco *tested* Lubricants for your mill. No obligation.

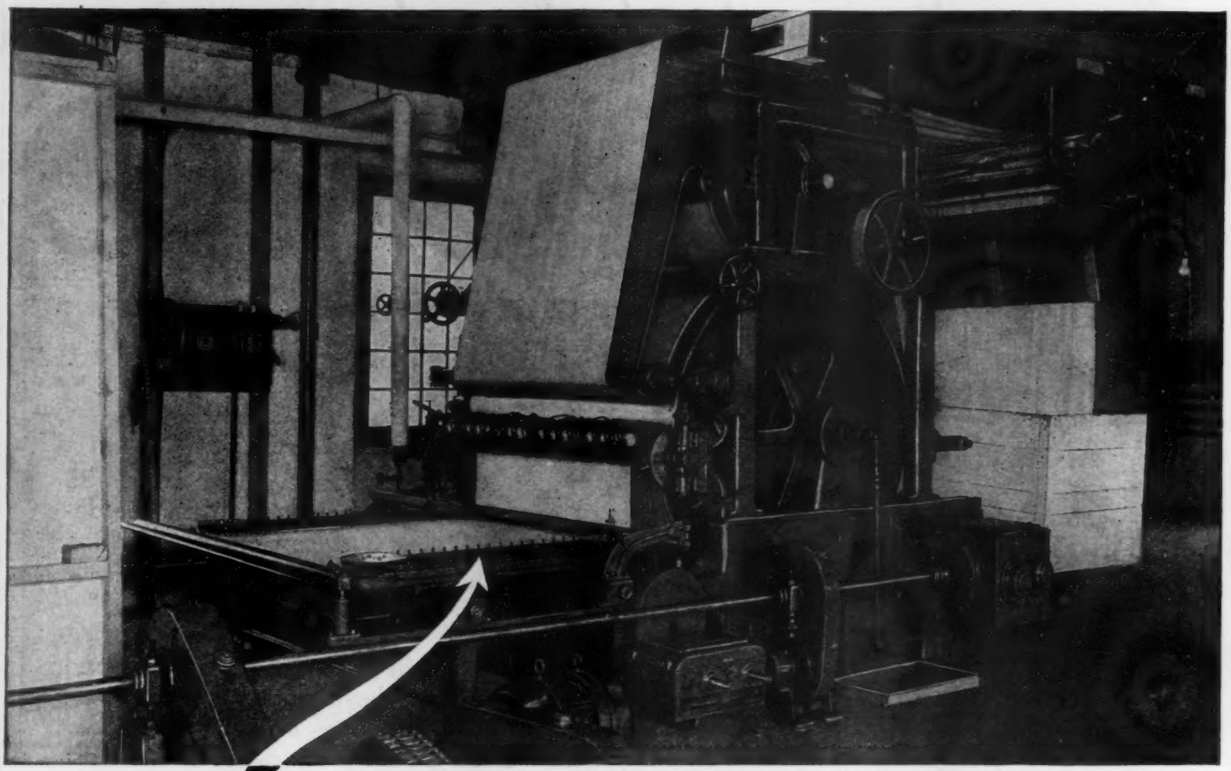
**FREE . . .** Remember to send for the special "textile issue" of LUBRICATION. It is valuable to executives and operators—address The Texas Company, Dept. JJ9, 135 East 42nd Street, New York City.

TEXACO REG. T. M.

# TEXACO

## *tested* lubricants

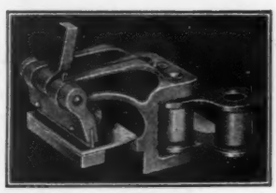
# Every Sanforizer Should Have One of These Butterworth Clip Expanders



*Butterworth Sanforizer in the Summerdale Dyeing and Finishing Works, Inc.*

THEY FEED FABRIC STRAIGHT INTO THE FINISHING MACHINE; AID THE CUTTER BECAUSE THEY ASSURE EVEN SELVEDGES. The illustration shows the Butterworth Clip Expander in the Summerdale Dyeing and Finishing Works, Inc., Summerdale, Philadelphia.

A. R. Robertson, superintendent of the plant said: "We regard the Clip Expander a distinct advance in sanforizing. There is practically no variation in the width of our goods as they come off the finishing machines. I believe that soon every sanforizing machine will be considered incomplete if it does not include a Clip Expander." ***This also is our belief.*** We will be glad to give you the complete details of the Butterworth Clip Expander. It can be readily incorporated into any existing sanforizing machine.



*Improved roller chain connecting link.*

*Made especially for running in connection with Sanforizing Tenterett or Clip Expander.*

*Rigidly reinforced having roller control in the nippers. Allegheny fastened insert. Allegheny plate, bronze spring. Note the oil hole.*

**H. W. BUTTERWORTH & SONS CO.**

*Established 1820*

PHILADELPHIA, PA.

PLANTS *at* PHILADELPHIA *and* BETHAYRES, PA.

| *New England Office:* | *Southern Office:* | *In Canada:* |
|---|---|---|
| TURKS HEAD BUILDING | JOHNSTON BUILDING | W. J. WESTAWAY CO. |
| Providence, R. I. | Charlotte, N. C. | Hamilton, Ontario |

# BUTTERWORTH *Finishing* MACHINERY

A COMPLETE LINE OF FINISHING AND RAYON MACHINERY FOR THE TEXTILE INDUSTRY

*Perfected packaging of Rayon on Cones*

*is* SONOCO

HISTORY...

3° 30'

We consider no greater achievement in our 35 years of serving the textile industry than our development of the **Velvet Surface Cone,** marking the first practical carrier for coning rayon yarn—and solving an industry's problem.

Since the first Velvet Surface Cone was developed in the Sonoco plant we have made many improvements and refinements, notably a recently perfected **satin-finish** Velvet Surface—so delicate and soft that it prevents all slippage in primary winding and insures delivery of yarn uniformly perfect to the last turn.

In perfecting this cone-surface a better, smoother, more desirable nose finish was developed—thus—**all** the important features in the perfect cone for packaging rayon yarn are taken from the pages of SONOCO History.

NRA MEMBER U.S. WE DO OUR PART

**Visit SONOCO Exhibit at**

**SOUTHERN TEXTILE EXPOSITION**

**Booth 103**

**Greenville, S. C., October 15-20**

# SONOCO PRODUCTS COMPANY

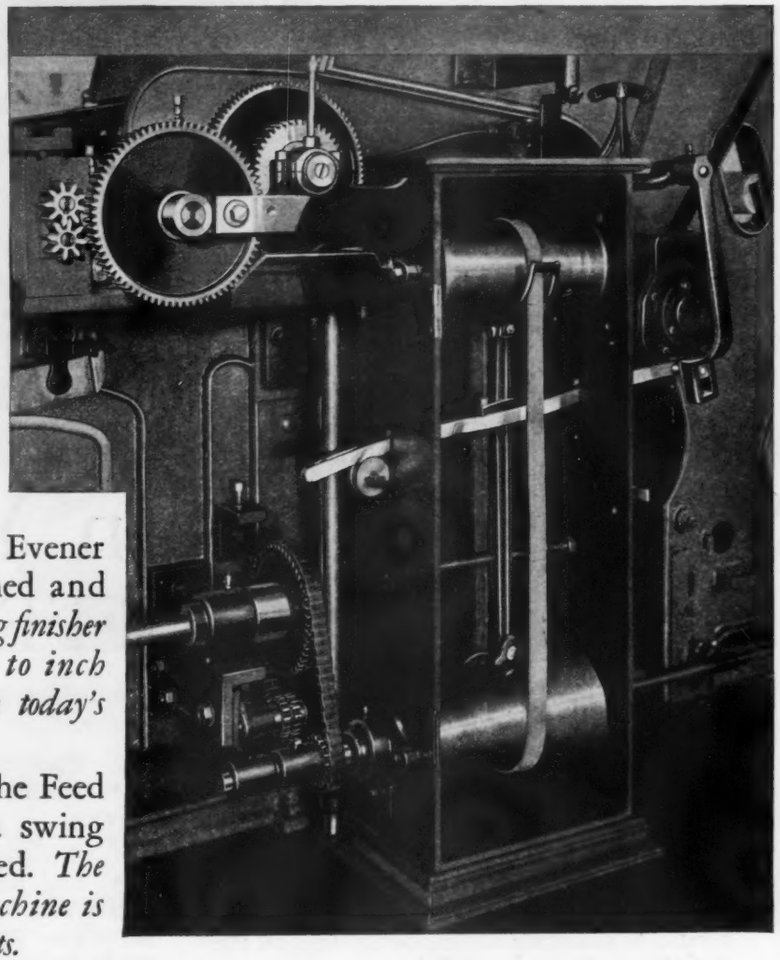
Hartsville, S. C.

**Branch Plants:**
Rockingham, N. C.
Garwood, N. J.
Brantford, Ont.

**Main Plant and General Offices:**
Hartsville, S. C.

**Eastern Sales Office:**
North Avenue,
Garwood, N. J.

# The WHITIN 1934 Picker Installation



the result of more than one hundred years of progress in building Preparatory Machinery

FEED Regulator and Evener Motions scientifically designed and accurately built *aid in producing finisher laps with very slight inch to inch weight variation, required in today's Picker Room.*

In the breaker section, the Feed Regulator is controlled by a swing rake in the Intermediate Feed. *The amount of stock fed to the machine is thus held within very close limits.*

The finisher section Evener Motion is controlled by sixteen pedals under pedal rolls, acting on evener belt guide through double links with straight lift. *A positive and easy drive,* with heavily constructed worms, worm wheels and spur gearing, readily interchangeable for adjustment.

Design of cone belt slide bar *compels belt eye to follow the contour of cones at all times,* insuring extreme sensitivity and efficiency in the Evener Motion.

## The stock is evened BEFORE it reaches the Feed Rollers

All parts readily accessible for rapid adjustment. Cleanout doors conveniently located, of ample size. Ball-bearings used generously throughout wherever practical and advantageous.

WHITIN MACHINE WORKS **WHITIN** WHITINSVILLE, MASS.

# Six Operations in Your Card-Room for TUFFER Control

Efficient cotton card rooms have long utilized all Tuffer card clothing products.

1. If your carder uses cylinder fillets of Tuffer he knows what a consistent job of carding they can do day in and day out. Other Tuffer products supply the same service—uniform results.

2. Tuffer clothed top flats provide the exact precision to *stay* set as close as needed to maintain clearance through all the variations of revolving flats.

3. Doffers covered with Tuffer doffer fillets clear the cylinder of a uniform carded stock ready for the comb.

4. Stripper and Burnisher fillets make your carder's working tools more complete and are designed for correct efficiency.

5. Emery fillet of the proper width and length available for immediate delivery.

6. Our Research Department has studied and tested all phases of grinding so that when Tuffer fillets are shipped to you they are thoroughly and evenly ground ready for your cards.

With Tuffer products throughout, you place your card room on the most efficient and economical basis possible. Tuffer representatives in your territory can quickly give you more facts in detail.

**Tuffer Products**
Lickerin Fillets
Feed Roll Fillets
Tumbler Fillets
Stripper Fillets
Worker Fillets
Doffer Fillets
Fancy Fillets
Cylinder Fillets

TRADE MARK
TUFFER
REG. U.S. PAT. OFF.

**Tuffer Products**
Doffer Rings
Strickles
Emery Fillets
Burnisher Fillets
Top Flats Recovered and extra sets loaned.
Lickerins rewired at Southern Plant.

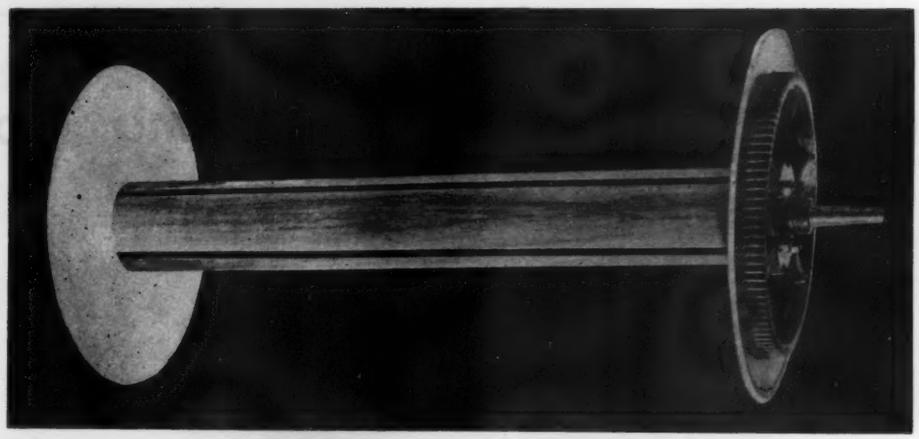
**Midgley Patented Hand Stripping Cards and Inserted Eye and Regular Wire Heddles**

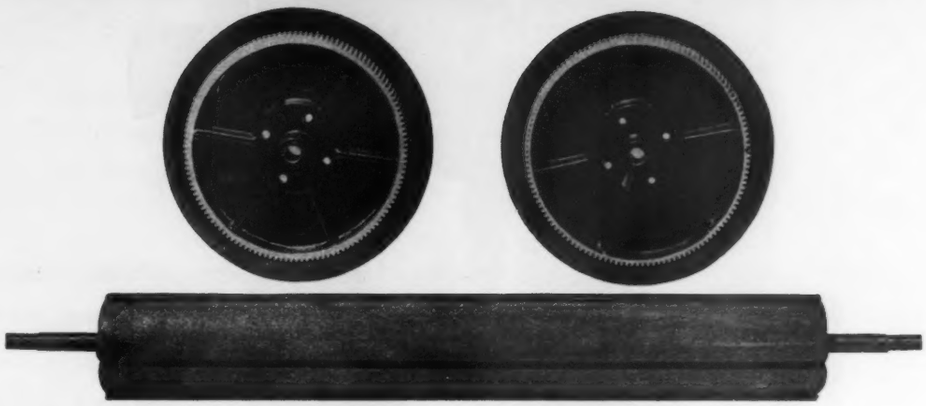
## HOWARD BROS. MANUFACTURING CO.

**HOME OFFICE AND FACTORY: WORCESTER, MASS.**

**Southern Plant**
**244 Forsyth Street,**
**Atlanta, Ga.**

**Branch Offices**
**Philadelphia, Pa., Dallas, Texas, and Washington, D. C.**





# ·LOOM BEAMS·

## BEAM HEADS • BEAM BARRELS

***Superior in Operation and Economy***

THROUGH the use of West Point Loom Beams, Heads and Barrels, a constantly increasing number of textile mills are greatly reducing losses caused by broken or warped beam heads.

West Point Special Alloy Cast Iron Heads are machined true and, because of their high tensile strength and close grained structure, reduce breakage to a minimum.

For best results our Special Patented West Point Loom Steel Beam Heads are recommended. The joints are riveted, thus eliminating warpage caused by heating in a welding process. All other details of construction likewise have been worked out to give satisfaction and lasting service. These heads are practically indestructible.

Superior quality, fair prices and reasonable delivery have established us as a leading manufacturer of Loom Beams, Heads and Barrels.

*Inquiries Solicited*

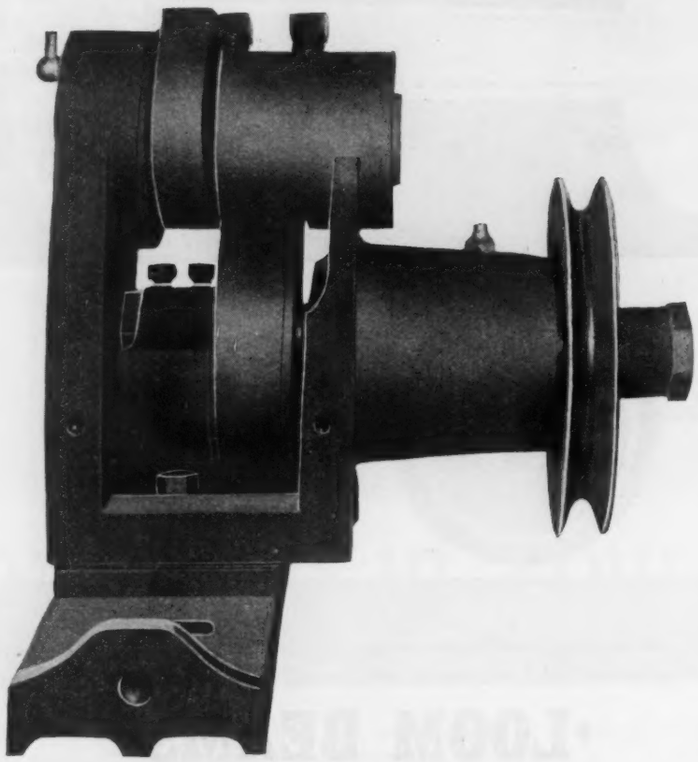
## WEST POINT FOUNDRY & MACHINE CO.

*(Batson-Cook Company, Owners)*

**WEST POINT, GEORGIA.**

*Also manufacturers of Cloth Inspecting Machines, Textile Gears, Card Cylinder Bearings, Loom Bearings, Picker Drives and Loom Parts.*

# The Dyess Ball Bearing Comb Box



Cut of Dyess Comb Box with cover removed

## Every Bearing A Ball Bearing

### Clean! Quiet! Cool!

No Drip - No Spatter - No Rattle

This box is the ideal replacement for worn out plain comb boxes.

All boxes interchangeable---no right-hand or left-hand boxes.

A whole Card Room full of these boxes can be lubricated for a few cents a month.

Made by

**AldricH MachinE**

Greenwood, **WorkS** South Carolina

# COTTON MILL* SAVES $11,928 IN 48 WEEKS...

***Specific figures and results again prove beyond question the value of a Taylor System of Temperature Control in the Slasher***

**Savings to this mill are nearly triple cost of equipment and installation of temperature control**

FIGURES from the mill speak louder than our words.

Taylor Temperature Control in Slashing is always engineered and installed to give actual results. It is based on results—not on theories of what ought to happen.

Instance after instance of remarkable money savings has been experienced by Taylor engineers during the last ten years. The most recent is in a cotton mill making print cloth. Taylor Temperature Control was installed on one cooking kettle, one storage kettle and two double-cylinder slashers.

***Read these savings over a period of 48 weeks and think of them in connection with your own mill:***

| | |
|---|---|
| **SAVINGS** of 72 tons of coal . . . . . | **$324.00** |
| **SAVING** on cotton filling (using one number lighter, and figuring present market price of cotton, plus process tax on bales saved) and commission cost | **5,220.00** |
| **SAVING** by reducing per pound cost of cloth through production increase of 1% | **6,384.00** |
| **TOTAL SAVING OVER 48 WEEKS .** | **$11,928.00** |

Now what about the general results achieved in cloth quality and production?

The Taylor System kept warps absolutely uniform.
It reduced shedding to a remarkable extent.
It cut down the number of warp loom stoppages.
It assured more even cloth weights.
It increased production.

The Taylor System, costing approximately $4,000, more than paid for itself in less than a year.

What this System of Slasher Control did for this mill, it may do for yours. Isn't it worth investigating right now?

Remember this when you ask for a Taylor Survey of your mill: a Taylor Temperature System is a *complete "Taylor-made" System*, engineered and installed to fit your special needs, based on a survey of *your* individual conditions. It is designed by engineers who have been specializing in textile mill control for years and who can meet every possible situation. Experience and exact knowledge produce definite results. Only an engineering staff with such a background can give you results you want today.

*Name of mill supplied on request.

Taylor
Indicating · Recording · Controlling
TEMPERATURE, PRESSURE and FLOW
INSTRUMENTS

DATE_____

TAYLOR INSTRUMENT COMPANIES, TEXTILE ENGINEERING DEPT.,
Rochester, New York; Atlanta, Georgia, Or Toronto, Canada.

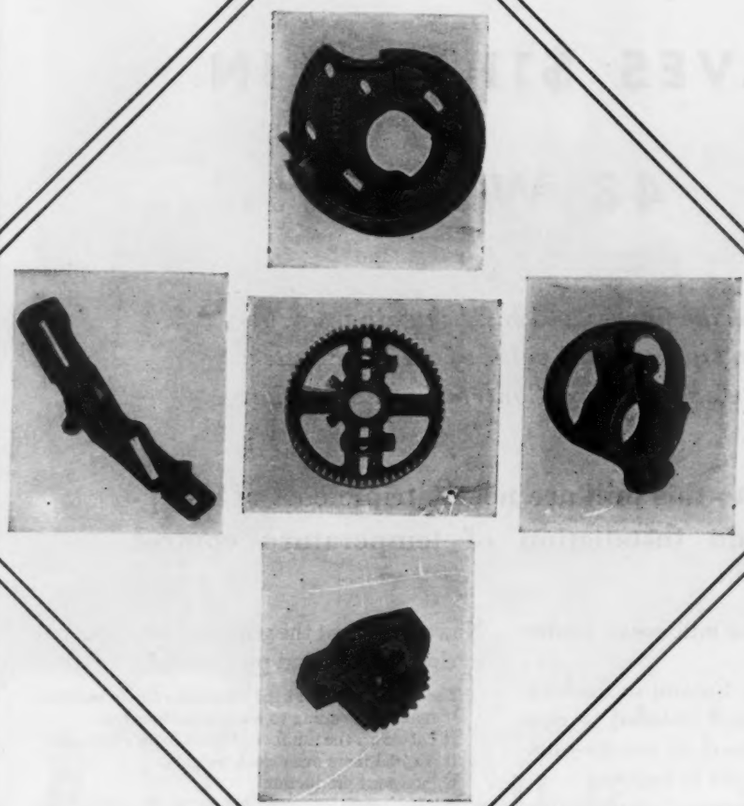
I am interested in your System of Temperature Control. Please give me additional data. I'd like to talk it over with a Taylor Representative.

NAME_____ POSITION_____

NAME OF MILL_____ CITY_____ STATE_____

**TAKE YOUR PEN OR PENCIL NOW AND FILL OUT THE ATTACHED COUPON**

Send it to us for a survey by a Taylor engineer. (This may reveal some surprising facts that you do not know now.) We stand ready to help you right away.



## Precision Repair Parts of Higher Quality

MADE from precision patterns, of the highest quality materials, by skilled mechanics, employing efficient equipment, HENDERSON Repair Parts assure you long, trouble-free service.

Low overhead and close location enable us to effect worthwhile economy for textile mills. You will find it to your advantage to anticipate future breakdowns and replenish your stock of repair parts now. Let us quote you on any parts for any make of textile machinery.

**HENDERSON FOUNDRY & MACHINE WORKS**
**HAMPTON, GEORGIA**

# HENDERSON

# A WHITER MILL WHITE

## *that stays white*

Not just an *improved* mill white, but a new mill white scientifically made to meet TODAY'S factory conditions. Better in 9 ways.

If you were to write *your own* specifications for the ideal mill white, you'd probably say—"I want the whitest white that can be made, a white that will *stay* white over a longer period, and that will give me better lighting, better appearance, and better protection—at lower final costs." Now compare DULUX Mill White in these respects with other mill whites on the market.

### DULUX MILL WHITE IS BETTER IN NINE DIFFERENT WAYS:

1. WHITER at the start
2. STAYS WHITER
3. DRIES QUICKER
4. HIDES BETTER
5. HIGHER GLOSS
6. SELF-LEVELING
7. MORE DURABLE
8. STAYS CLEANER
9. EASILY WASHED

DU PONT
REG. U. S. PAT. OFF.

**DULUX**
REG. U. S. PAT. OFF.

**MILL WHITE**

### SEND FOR FREE BOOKLET

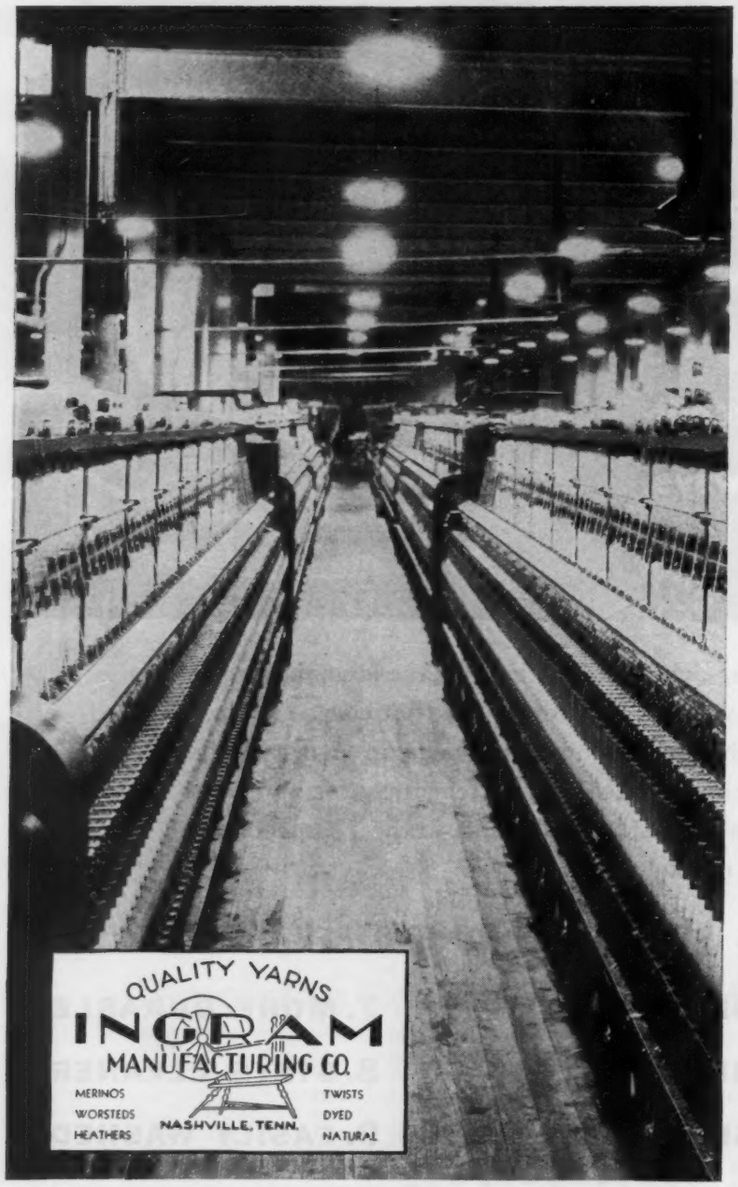
E. I. du Pont de Nemours & Co., Inc.,
Finishes Division, Wilmington, Delaware

*Gentlemen:* I would like to receive additional information about DULUX Mill White, the whiter mill white that stays white longer. Please send me your booklet which, I understand, will place me under no obligation.

Name_____

Address_____

# THEY BOOSTED LIGHTING INTENSITY 500%!




The spinning room of the Ingram Manufacturing Company in Nashville, Tenn. showing the present lighting system with 200-watt MAZDA lamps in standard RLM Dome Reflectors. Units spaced on approximately ten to fourteen foot centers and mounted twelve feet from the floor give an intensity of from twelve to fifteen foot-candles.

## *by installing 200-watt* MAZDA LAMPS

THE Ingram Manufacturing Company in Nashville, Tenn., makers of high grade merino yarn, stepped up the lighting intensity in their carding and spinning departments approximately 500% by the simple expedient of replacing 100-watt lamps with 200-watt MAZDA lamps.

Before the change, a lighting survey revealed an average intensity of approximately three foot-candles in the carding room, and three and a half foot-candles in the spinning room, with poor distribution, the ratio being as high as one to six. Our survey showed that the standard RLM Dome Reflectors were of sufficient size to take the higher wattage lamps.

Now, with new lamps and reflectors clean, the foot-candle intensity has been raised to twelve and fifteen. And obviously the cost was extremely modest for the results achieved. Better lighting of this sort pays for itself many times over in reducing waste and spoilage . . . in increasing quality production and lowering operating costs.

The services of our lighting experts are available to you free of charge. They will gladly make a lighting survey of your plant and show you how to get the greatest value from your lighting equipment. For further information, write General Electric Company, Nela Park, Cleveland, Ohio.

**GENERAL ELECTRIC**
**MAZDA LAMPS**

# NO MORE jerks and jars!

Textile mills everywhere are adding to their mechanical efficiency, and cutting down operating costs, by an ever wider use of Texrope Multiple V-belt Drives.

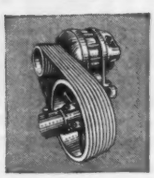
Texrope Drives are ideal for the textile industry—and others, too—because they start so smoothly and evenly. The moment power is applied, the Texrope belts grip tightly and carry the full load without slipping. Then and later they serve as a continual cushion against destructive vibration and shocks.

Unlike other drives they are supplanting, Texrope Drives neither slip nor backlash, and so eliminate all jerks and jars. Nor do they have to be lined up as perfectly as gears, chains, and flat belts. Because there is no wear on sheaves, and practically none on the Texropes, replacements are infrequent.

Texrope Multiple V-belt Drives do away with overheated bearings on motors and spinning frames. Their constant speed, low maintenance cost, and freedom from oil and dirt are qualities you cannot disregard in your selection of an efficient drive.

ALLIS-CHALMERS MFG. CO. MILWAUKEE, WIS.

**TEXROPE DRIVES**



ORIGINATED BY ALLIS-CHALMERS

# Sales Builders for SOUTHERN TEXTILES

New Designs
Reproductions

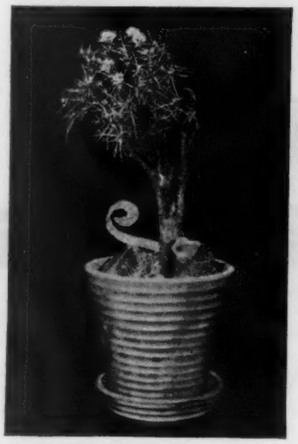
LABELS • TICKETS
BANDS • HANG TAGS •
BOLT ENDS • RIDERS • •

JACOBS GRAPHIC ARTS COMPANY
CLINTON___SOUTH CAROLINA

# Do you use *Gums?*

## ARABIC · KARAYA · TRAGACANTH ... *for Printing, Finishing, etc.*

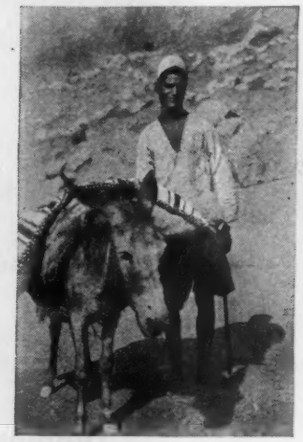
## *The Story of Gum Tragacanth*



1. Tragacanth Gum Bush.

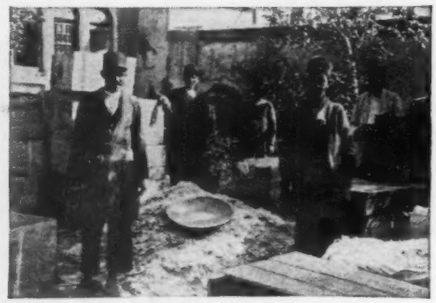
2. Mountainous regions of Persia in which the gum is gathered. Only sand, rocks and the Tragacanth shrubs from 1 foot to 2 feet high.

3. Tapping the shrub. The rocks, etc., must be dug away to expose the stem—which is then slit with a sharp knife to let the gum ooze out.



4. Bringing the gum down from the mountains. Only small donkeys or camels can be used.

5. Sorting into grades. Wages 1 Kran (about 6¢) per day.



6. Weighing and packing in cases.

7. On its way to the coast. Once more on donkey or camel back.

8. The final stage, in the river steamers bound for the port, thence on its final journey to London, Marseilles or New York.

• For over 20 years we have been importing and milling gums for all purposes and can supply you with any type or quality.

Our large stocks of Arabic, Karaya and Tragacanth Gums are available in all grades and in any form—whole, crushed, granulated or powdered. These gums may be had from stock, undiluted, unblended in the original import packages, or milled to your own specifications.

The facilities of our laboratories are at your disposal without obligation. Write us today of your special requirements or send us samples of what you now use and we will match with counter samples and submit quotations.

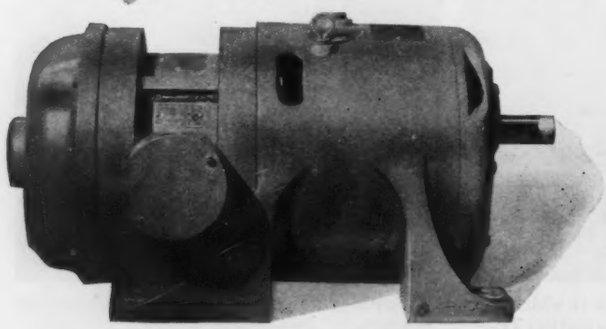
**JACQUES WOLF & Co.**

*Manufacturing Chemists and Importers* • Passaic, New Jersey

*Warehouses:* Providence, R. I. • Philadelphia, Pa. • Utica, N. Y. • Chicago, Ill. Greenville, S. C. • Chattanooga, Tenn.

# Newest

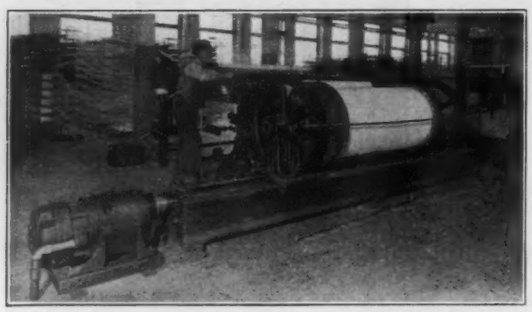
# TEXTILE GEAR MOTORS



SELF-CLEANING GEAR MOTOR

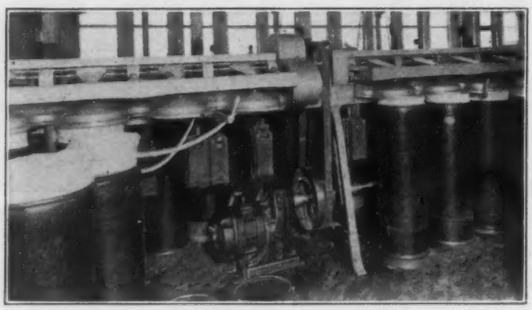
FOR DIRECT-CONNECTED DRIVES AT ANY SPEED . . . . .

This newest development makes possible the economical direct connection of motors to textile machinery at any speed.



10/5 hp., 130 and 65 r.p.m. Reliance Heavy-duty Two-speed Gearmotor direct connected to warp compressor. Double reduction.
For details get Bulletin 400.

Reliance Type AA heavy-duty Gearmotors are designed for continuous-running, maximum-service applications.



3 hp., 215 r.p.m., Reliance Heavy-duty Gearmotor direct connected to drawing frame. Single reduction.
For details get Bulletin 402.

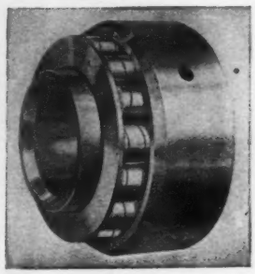
Different output speeds can be readily provided by change of a pair of gears. Shaft can be put in one of four positions. Feet are at point of maximum torque. Alloy-steel helical gears and pinions are used throughout. All gears run in oil.

RELIANCE A-C D-C MOTORS

**Reliance Electric & Engineering Co.**
1070 Ivanhoe Road, Cleveland, Ohio

*Branches:* Birmingham, Boston, Buffalo, Chicago, Cincinnati, Detroit, New York, Philadelphia, Pittsburgh, Washington.
Representatives in other principal cities.

# A Loom Fixer Talks With His Superintendent



"How are the roller bearing looms running, Joe?"

"Fine, Mr. Rogers. Seems like we never have to do any fixin' on these looms equipped with Hyatt Roller Bearings. They run as steady as a top. Lays never get jumpy or drop down because the rockershaft roller bearings don't wear."

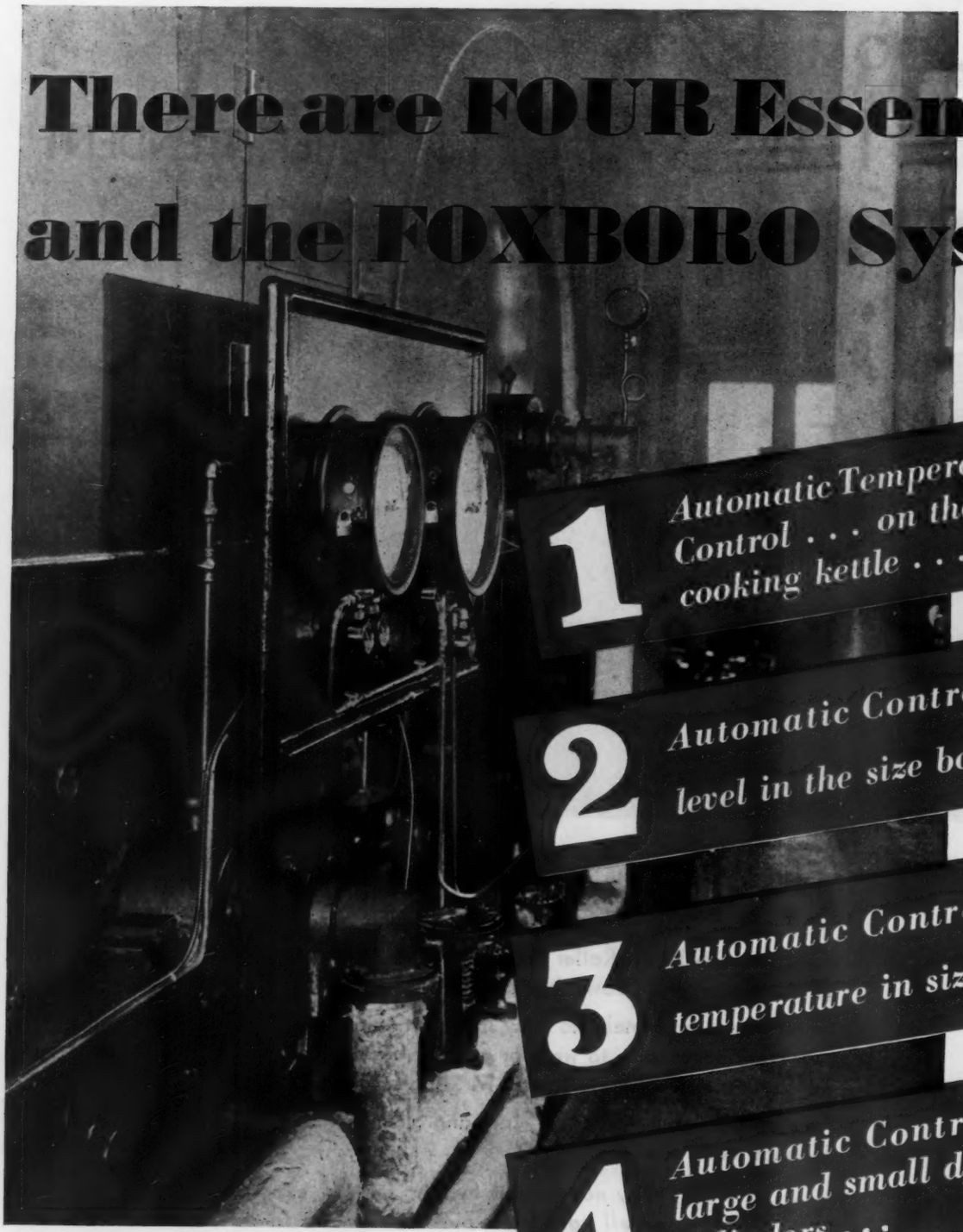
"And there's absolutely no play in the crankshaft and camshaft bearings. The gear teeth never seem to wear or get any back lash in them either. You must get more production off these looms, Mr. Rogers, for they pick steady as a watch."

"We do get more production, Joe, and all of our looms will have Hyatt Roller Bearings from now on."

*Why not benefit by Mr. Rogers' experience. Specify Hyatts on all your loom purchases. For further information write Hyatt Roller Bearing Company, P. O. Box 476, Newark, N. J.*

HYATT
ROLLER BEARINGS
PRODUCT OF GENERAL MOTORS

# There are FOUR Essentials and the FOXBORO System



1 *Automatic Temperature Control . . . on the size cooking kettle . . .*

2 *Automatic Control of level in the size box . . .*

3 *Automatic Control of temperature in size box*

4 *Automatic Control of large and small drying cylinders . . .*

**Not the application of one or two instruments . . . but a**

***Completely Engineered System***

COMPLETE TEXTILE

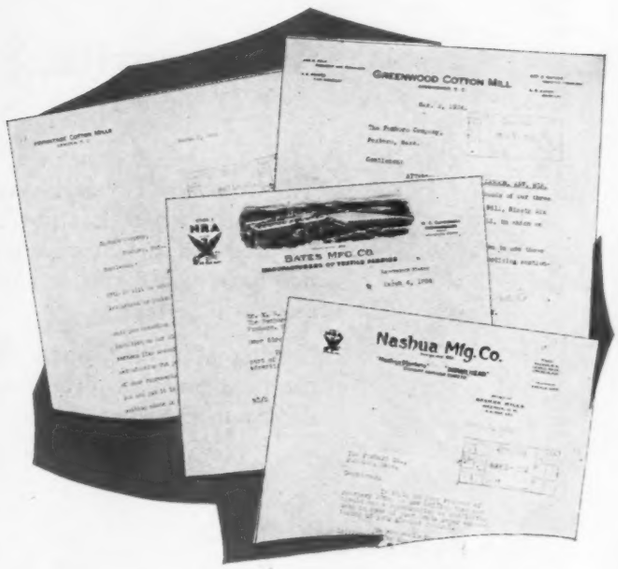
# s to COMPLETE Slasher Control

# n gives you ALL FOUR . . .

You might as well do the job correctly. Control is required for correct slashing. Why not get complete control—control that takes care of all four essentials?

The Foxboro System gives you every essential of automatic control in the slasher process. This is made possible by the actual textile mill experience of Foxboro engineers and twenty-five years experience in textile mill instrumentation. The Foxboro System:

1. Automatically cooks the size at the correct temperature for the proper time and when finished, the steam is shut off and a signal light turned on.
2. Automatically holds the level of the size in the size box constant. This means uniformly sized yarn on the entire beam.
3. Automatically holds the temperature in the size box at a predetermined point, resulting in uniform consistency with no waste of steam or starch.
4. Automatically keeps the large cylinder at a temperature low enough to dry the wet sized yarn evenly throughout. The smaller cylinder remains at a higher temperature thereby drying the yarn thoroughly on the outside with the proper amount of moisture left in the center.




## EVIDENCE . . .

A great many manufacturers have written enthusiastic letters about the results they get from Foxboro Instruments. These letters give evidence of the money-saving ability and long, useful life.

If you need more evidence, write to us today for complete facts.

**FOXBORO**

REG. U. S. PAT. OFF.

*THE COMPASS OF INDUSTRY*

## THE FOXBORO COMPANY

FOXBORO, MASS., U. S. A.

*BRANCH OFFICES IN PRINCIPAL CITIES*

Atlanta Office—161 Spring Street Building

MILL INSTRUMENTATION

*In addition to*
**SLASHER CONTROL**

In addition to Slasher Control Foxboro has a complete line of Recording and Controlling Instruments and has applied them with success to practically every textile mill operation. Send your problem to us.

Temperature Controllers

Recording Thermometers

Humidity Recorder and Controller

Steam Flow Meters

Pressure Gauges

Time Temperature Controllers

Tachometers

Power Plant Instruments

# Southern Textile Men Are Going "Shopping"

## At Greenville, S. C. October 15th to 20th

The Southern Textile Exposition, held every second year at Greenville, S. C., is regularly the outstanding exposition of the textile industry. Already over one hundred and thirty companies have reserved exhibit space for the coming exposition to be held October 15th to 20th. It is anticipated that in a short time all space will be taken.

Coming at a time when the mills are keenly interested in modernizing their plants, it promises to be one of the best attended and most successful of all of the Southern shows.

## *October*

## *Southern Textile Exposition Number*

Since the first textile exhibit in the South, the Southern Textile Exposition Number of *Cotton* has been recognized as the most complete guide and source of information on the exhibits, the individuals attending, the equipment and products shown and other data of interest to textile mill men—the most representative issue published to the Southern textile industry. This is a distinction of which *Cotton* is proud and will continue to warrant.

The coming October Show Issue, carrying full advance information, will reach *Cotton's* subscriber's previous to the Exposition. It will also be distributed in each booth at the Exhibit Hall and an ample supply will be on hand for the convenience of mill men.

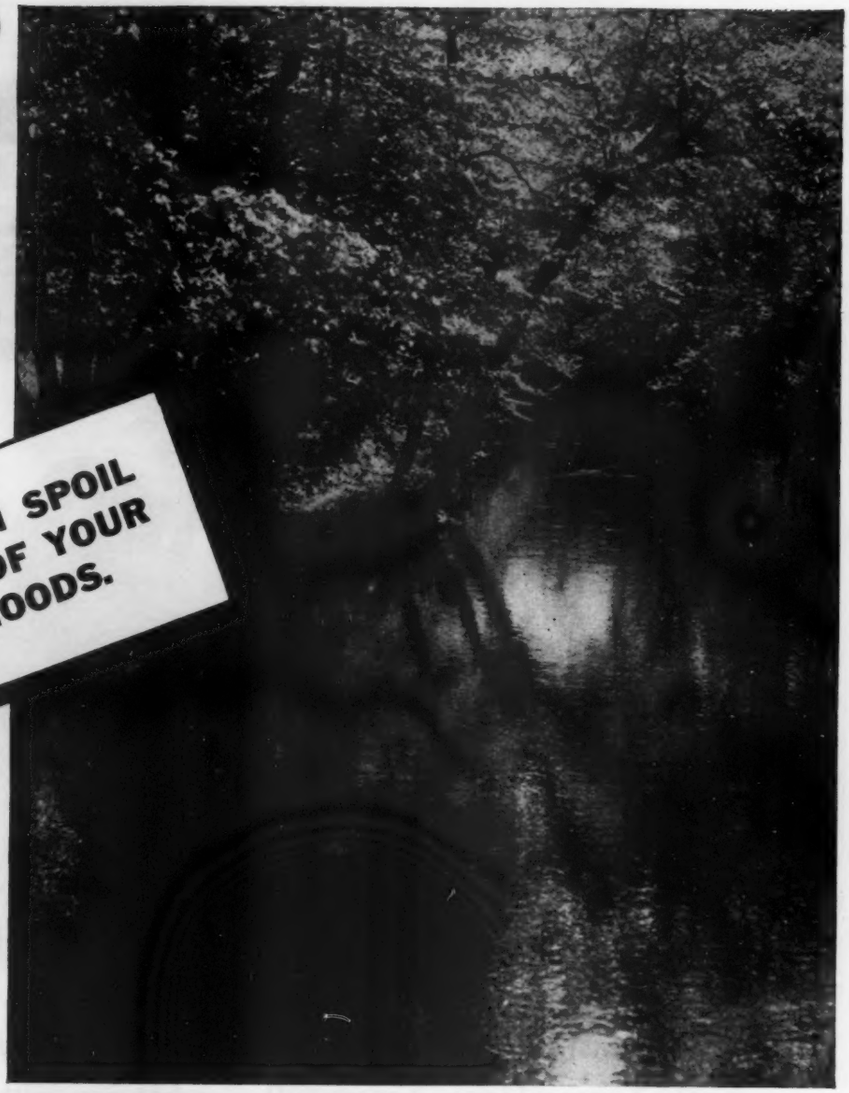
The unusual advertising and sales value of this issue is well known. Many regular advertisers have already increased their space to make special announcements. A large number of new advertisers have reserved space. You will want to capitalize on this issue by having your products and service adequately represented in its pages.

## *Forms Close September 20th.*

# • *Cotton*

**Grant Building,**
**Atlanta, Georgia**

# CLEAR AS CRYSTAL



**. . . BUT IT CAN SPOIL THE QUALITY OF YOUR FINISHED GOODS.**

PICTURE a clear cold brook winding through a wooded valley. How pure this water looks. But put this same water under the laboratory microscope and you'll discover it contains a multitude of suspended impurities; and, by chemical analysis, you'll find a variety of dissolved minerals and gases are present in the water.

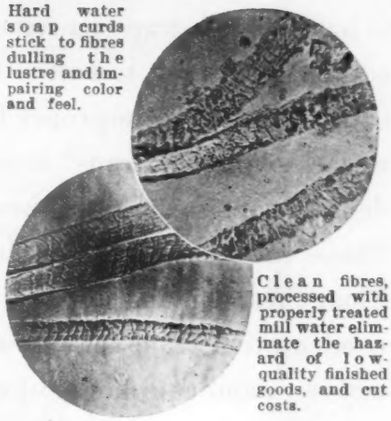
The clean appearance of water is deceiving. No natural supply of water is soft enough or pure enough for textile processing. For example, the dissolved lime and magnesia salts in water will make sticky curds when soap is added. These curds adhere to the tiny fibres in processing, and the fibres become stiff, uneven and harsh-feeling in finished goods. (See photomicrographs at the right.) These and other impurities may cause streaky dyeing, rust spots in bleaching, or high yarn breakage.

How free is your mill water from impurities? For twenty years Permutit has studied the water problems of textile mills, and we know that every supply of mill water must be properly treated. Coagulating, filtering, softening and perhaps even further processing may be required to obtain high quality goods.

Why not protect your products with Permutit Water Treating Equipment?

Consider what you will save in operating expenses. Soap and soda costs are less. You use less bleach. And boiler scale is entirely eliminated, so turbining is no longer required and tube replacements are substantially reduced. In fact, savings often pay for the entire equipment within a year's time.

Let us make a free survey of your mill and recommend suitable water treatment. First, send for our free booklet, "Reducing Textile Costs and Troubles", a study of modern water Treatment. Write The Permutit Company, 330 West 42nd Street, New York.



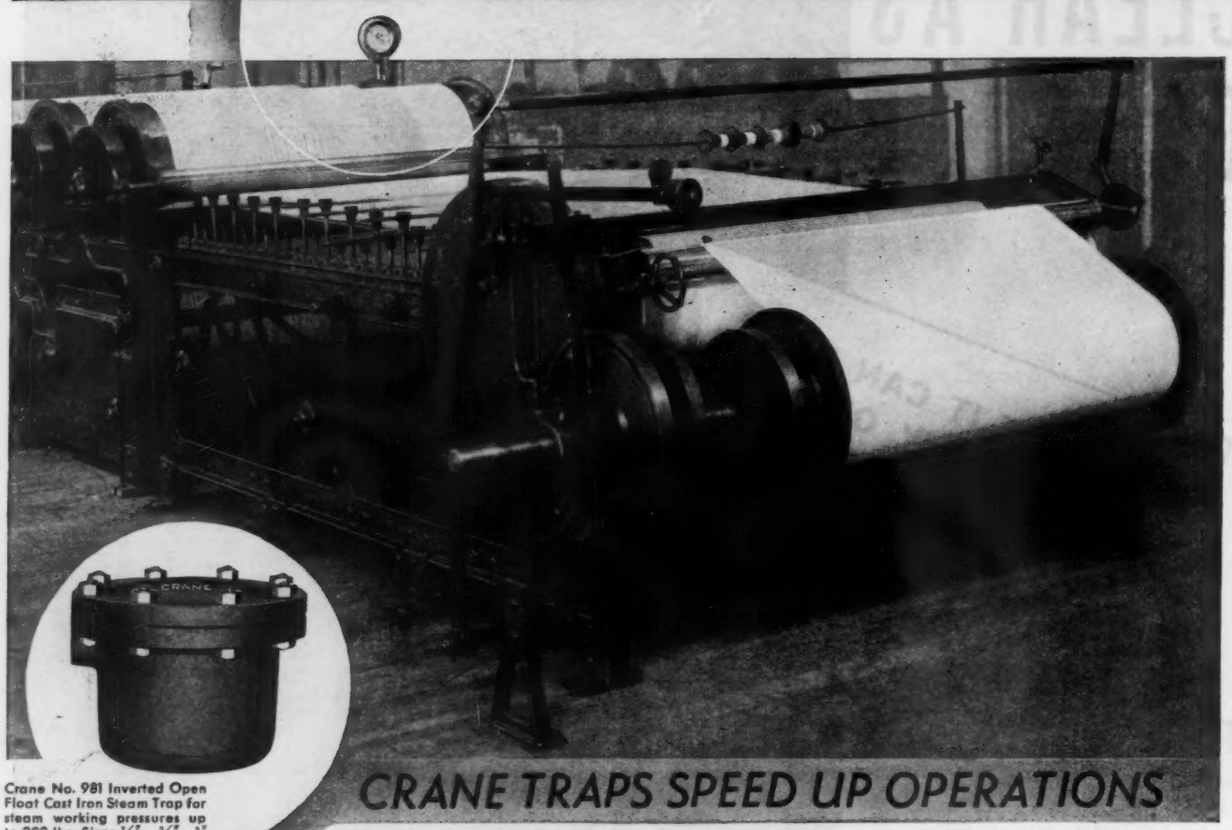
Hard water soap curds stick to fibres dulling the lustre and impairing color and feel.

Clean fibres, processed with properly treated mill water eliminate the hazard of low-quality finished goods, and cut costs.

Permutit

*Water Treating Equipment*

# FASTER drying . . . . FASTER production!






Crane No. 981 Inverted Open Float Cast Iron Steam Trap for steam working pressures up to 200 lbs. Sizes ½"—¾"—1"

## CRANE TRAPS SPEED UP OPERATIONS

THEY cost so little . . . and they save you so much! You would expect every mill to have enough traps on steam lines . . . on equipment . . . but too often they are inadequate. Either by improper functioning or by lack of *enough* traps! Accumulated condensate robs steam of its heating capacity. These inexpensive Crane Inverted Open Float Steam Traps automatically remove condensation from coils, heaters, slashers, dry cans, and equipment of all kinds. It is important for you to maintain proper temperatures *without fluctuation* . . . install Crane Traps! They are very, very inexpensive. Considering the amount they will save you in a year we advise that you make a check-up in your mill immediately to see where these Crane Traps are needed. We suggest that you order a quantity so that you may always have these inexpensive traps in stock.

*You are invited to visit the Crane Exhibit at the Southern Textile Exposition, Greenville, S. C., October 15-20

# CRANE

*Branches and Sales Offices in One Hundred and Sixty Cities*

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO, ILLINOIS • NEW YORK: 23 W. 44TH STREET

VALVES, FITTINGS, FABRICATED PIPE, PUMPS, HEATING AND PLUMBING MATERIAL

# *For*
# GOOD FULLING

When you ask your textile chemical manufacturer why you should use fulling soaps containing Yarmor Steam-distilled Pine Oil he will tell you:

1. They eliminate the precipitation of insoluble lime soaps on the stock.
2. They insure uniform results in the dyeing and finishing operations.
3. They rinse easily, quickly, and thoroughly.
4. They help to eliminate rancidity in storage.
5. They do away with the stagnant smell around fulling machines.

*Your textile chemical manufacturer can supply you with a superior fulling soap containing Yarmor.*

Steam-distilled Pine Oil
Steam-distilled Wood Turpentine
Wood Rosin
Alpha Terpineol
Commercial Abietic Acid
Abalyn
Nitrocellulose
Chemical Cotton

## *HERCULES NAVAL STORES*

*HERCULES POWDER COMPANY*
INCORPORATED
995 Market Street, Wilmington, Delaware
BRANCH OFFICES... CHICAGO • NEW YORK • PHILADELPHIA
ST. LOUIS • SALT LAKE CITY • SAN FRANCISCO

OO-28

★**MODERNIZE YOUR SOFTENERS...**
**AS YOU HAVE YOUR PRODUCTION**

# *No more*
# OBJECTIONABLE FINISHING ODORS

*when you use*

# SOL-LUSTRE
## No. 3

*A new and more economical softener*

★Undoubtedly you use modern finishing methods in your plant, but do you employ the most modern softeners? The Houghton Research Staff, realizing that production methods today call for finishing materials that could be taken up by the fabric much more rapidly, developed the product we call Sol Lustre No. 3.

It has greater softening properties and will go twice or three times as far as the older varieties of softeners.

Modern drying equipment is more rapid and carries higher temperatures which tend to break down an oil causing it to turn rancid and impart a bad odor to the goods. These oils also oxidize and give a yellowish color to the material to which they have been applied.

Sol Lustre will end those troubles. It is a real sales aid for your product for it will not discolor the fabric nor develop any odor in the goods regardless of how long they may be stored. May we prove it to you?

**4 BIG ADVANTAGES OF SOL LUSTRE NO. 3**

1. Chemically treated so it will not turn rancid, oxidize or yellow the goods.
2. Has more than twice the softening action of older varieties of softeners.
3. Imparts a desirable luster and sheen to fabrics.
4. Imparts no noticeable or objectionable odor to the goods.

**E. F. HOUGHTON & CO.**
**CHICAGO PHILADELPHIA DETROIT**

E. F. Houghton & Co., C-9
240 W. Somerset St., Phila., Pa.
Please send me full data on SOL-LUSTRE No. 3.

Name .....
Company .....
Street .....
City .....

*USE THE COUPON!*

# Condor Compensated BELTS

PAT. APPLIED FOR

## THE LOW TENSION RUBBER BELT

*with equalized ply tensions*

Above is a typical installation of Condor Compensated Belts in the card room of a large textile mill.

Condor Compensated Belts are regularly used on every type of textile mill drive. On small pulleys its remarkable flexibility and compensated ply-tension holds fasteners 3 to 4 times longer than standard belt on the same drive. High starting torques and peak loads considerably above normal may be safely handled without slip.

Condor Compensated is an economical general-purpose textile mill belt—a trial will convince you.

*Sold by leading jobbers*

NRA CODE Reg. 29-021

**Condor LINE**

| | |
|---|---|
| V-Belt | Fire Hose |
| Flat Belt | Steam Hose |
| Air Hose | Suction Hose |
| Cone Belt | Molded Goods |
| Acid Hose | Oilless Bearings |
| Water Hose | Rubber Lined Tanks |

Rubber Covered Rolls
Industrial Brake Blocks and Lining

**THE MANHATTAN RUBBER MFG. DIVISION**
OF RAYBESTOS-MANHATTAN, INC.

**EXECUTIVE OFFICES AND FACTORIES, PASSAIC, NEW JERSEY**

# The VANDERBILT Hotel

New York City

*Visitors*

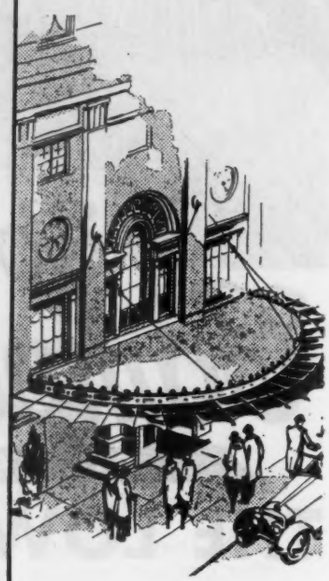
*always enjoy its Atmosphere of Friendliness and Charm and its Air of Distinction as well as its Excellent Cooking and Exceptional Service . . . . Its Convenient Location, its Nearness to Railway Terminals, Shopping District, Theatres,* make it the

*"Handiest" Stopping-place in New York*

*To these Attractions add*

REMARKABLY LOW RATES

Single Room and Private Bath $3.00 Double Room with Two Beds and Private Bath $5.00



SPECIAL!

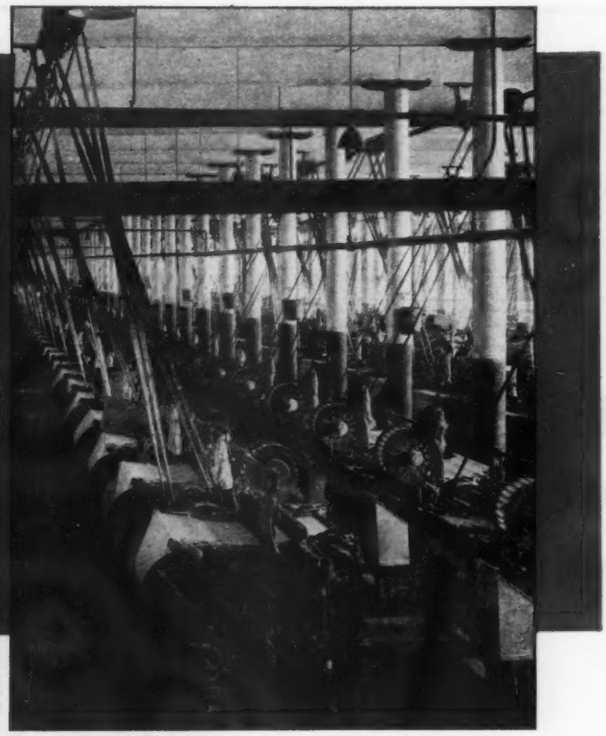
*Breakfast, 75 cents; Luncheon, One Dollar; Dinner, $1.50*

WALTON H. MARSHALL, *Manager*

*Park Avenue at Thirty-fourth St., New York.*

The Della Robbia Room

# BIG ADVANTAGES GO WITH .....



# Challenger
## SQUARE EDGE BELTING .....

THE SUPERIORITIES of Challenger have been proven out of experience. Low permanent stretch—even tension—long maintenance of original high strength and tenacity—long endurance at fasteners—high friction surface—low slippage—powerful ply adhesion—unusual flexing life—these are definite merits which long and varied performance of this high grade belting have placed on record.

Any power transmission is a technical problem and belting is the all important unit upon which other factors must rely. Economy and efficiency depend upon steady flow of energy with minimum vibration, low maintenance costs and adequate margins of safety for overload emergencies, and these important elements must be dependably supplied. Challenger will give them to you in fullest measure.

Challenger is made in sizes and ply construction for all types of drives—in roll or cut lengths, or endless when specified.

Describe your particular needs for more productive power transmission and let our engineers give you the benefit of their knowledge and experience without obligation to you.

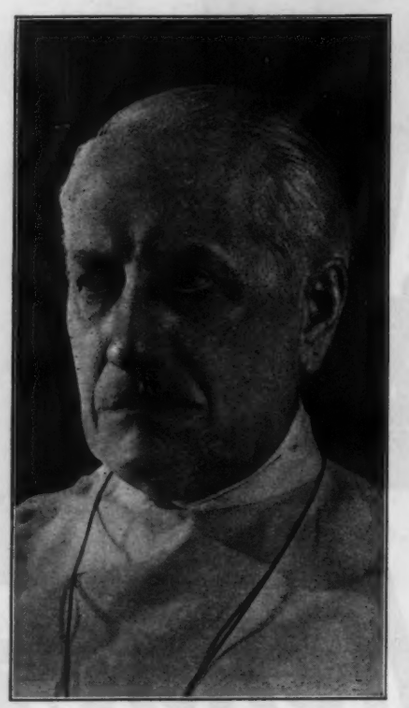
## THE REPUBLIC RUBBER CO. YOUNGSTOWN, OHIO

MECHANICAL RUBBER PRODUCTS FOR EVERY INDUSTRIAL REQUIREMENT

• ORDER REPUBLIC RUBBER PRODUCTS • FROM YOUR DISTRIBUTOR

# *To* PROCESSING EXECUTIVES—

## If this man needs help--why not YOU?



This man is typical of hundreds of leading medical men. He holds degrees from several of the most highly rated medical institutions and his opinion on many medical subjects is accepted without question by his colleagues.

And yet this man does not hesitate to consult with his colleagues almost daily on some phase of medicine or surgery which is foreign to his daily routine. He knows that no one man can be entirely self sufficient in such a diversified field.

Why then should a textile processing executive hesitate to seek the opinion of others on some new textile finishing, sizing or softening problem which is foreign to his daily routine?

Textile chemistry to-day rivals medicine in its diversification. No one man can know everything about it.

The wise processing executive therefore is he who seeks the opinion of broad outside experience in solving his processing problems.

Arnold-Hoffman offers such an experience gained in more than a century of service to all branches of the textile industry. This service is free to all users of A-H Products, actual or potential. Call in our local representative the next time you strike a knotty processing problem.

**CHEMICALS**

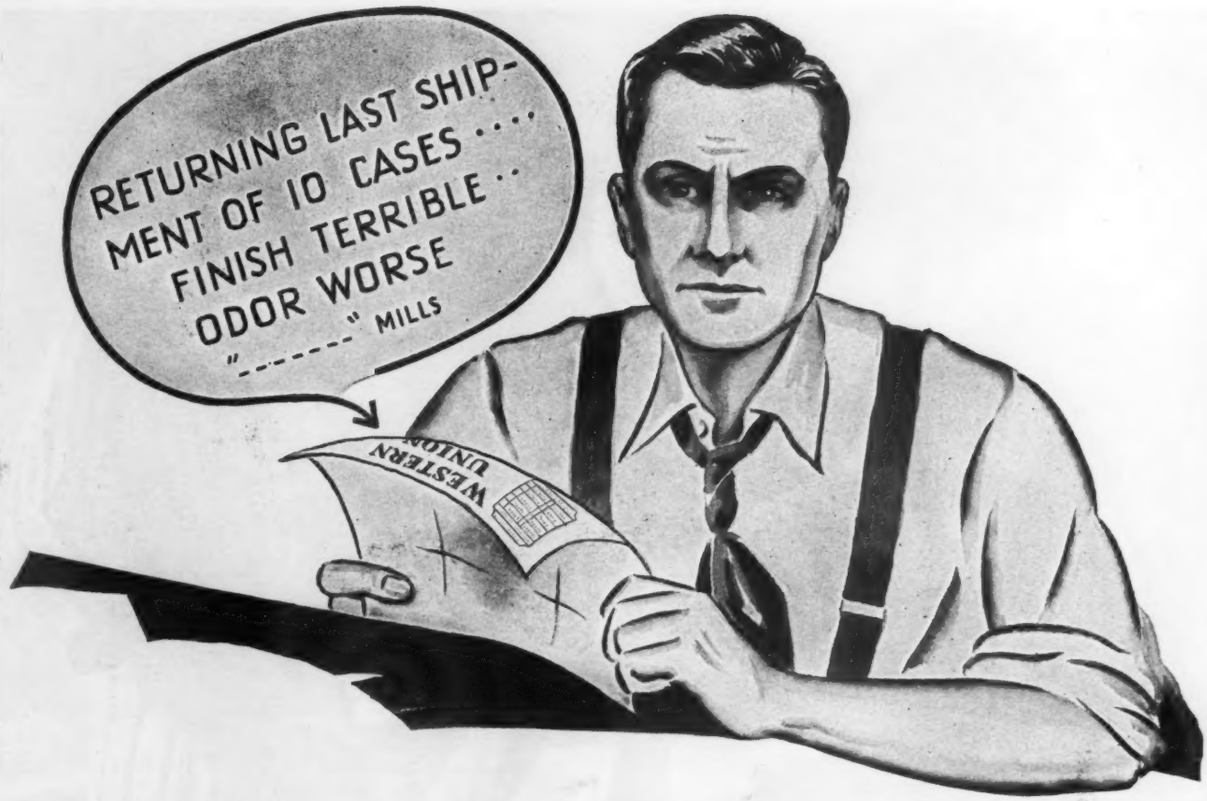
Sizing Gums and Compounds . Soluble Gums . Softeners . Soluble Oils . Tallow . Waxes . Soaps . Flour Dextrines . Starches . Pigment Colors and Lakes . Ammonia . Acids . Blue Vitriol . Borax . Bichromate of Soda . Bichromate of Potash . Liquid Chlorine . Chloride of Lime . Caustic Soda (solid and flaked)

# Arnold, Hoffman & Co., Inc.

*Established 1815. Plant at Dighton, Mass.*

PROVIDENCE, R. I.

New York - Charlotte - Philadelphia - Boston




# "No More 'Cheap' Compounds ...I've learned my Lesson!"

**"I thought I was smart last month, saving a few cents a pound on my processing compounds. Now I lose a customer and ten times the amount I "saved." Well, I've been burnt once . . . but never again!"**

• • • • • • • • •

It's an old story . . . "cheap", inferior textile compounds are false economy. They cost more to use — they endanger your output — they fail to give the high quality fabrics necessary to bring good prices in today's market.

Be guided by the judgment of leading mills who standardize on ONYX laboratory-controlled processing and finishing compounds throughout their operations.

Get the benefits of research and careful manufacture. Profit by the operating economies . . . the trouble-free production . . . finer fabrics and better prices made possible by the use of ONYX compounds.

If you are not using ONYX compounds, you can easily find out in your own mill, without obligation or cost, just what they can do for you. Write for samples, stating operation and fabric. If you wish, a practical ONYX textile chemist will assist in the tests.

**ONYX OIL & CHEMICAL CO.**

*Specialists on Finishing Materials.*

Jersey City, N. J.

Southern Repr. E. W. Klumph, Charlotte, N. C.

Midw. Repr. Maher Color & Chemical Co., Inc., Chicago.

In Canada: Onyx Oil & Chemical Co., Ltd., Montreal.

**Onyx LABORATORY-CONTROLLED PROCESSING & FINISHING COMPOUNDS**

Browning

*At every gathering..*
*Frocks display*
*their* **FINISH!**

TAFFETA FINISH #710
MELTON FINISH
PALM SOFTENER
DELUSTROL
ARKOL #812
ARKOL

●

● Fabric weaves that excite admiration...Finish that tells the use of scientifically correct finishing compounds.

● Wherever *millmen* gather to exchange ideas and experiences, there is a definitely expressed satisfaction and assurance covering the research and uniform accomplishments advanced by Arkansas.

● These FINISHING COMPOUNDS offer finer finish for all classes of fabric.

**ARKANSAS CO · INC** 233 BROADWAY NEW YORK

# EARLY LIFE OF A BAD CREPE

WOW! WHAT A BAWLING OUT THE WEAVER GAVE THE FINISHER ABOUT YOUR PEBBLE
YES—AND IT REALLY WASN'T HIS FAULT. I'LL TELL YOU...
...THE MAN WHO THREW MY YARN DIDN'T CONSIDER THE SOAKING TREATMENT VERY IMPORTANT. HE USED A FORMULA FOR FINE CREPE, WHILE I WAS DUE TO BE A CANTON...
JUST GIVE IT THE SAME TREATMENT AS THE LAST LOT
...NATURALLY WHEN I CAME TO THE BOIL-OFF I JUST WOULDN'T CREPE UP RIGHT, THOUGH THEY BOILED AND BOILED ...
OF ALL THE D---X?!!!
...SO THEY TORTURED ME ON THAT EMBOSSING MACHINE FOR AWHILE AND HOPED I'D GET BY...
WELL, MAYBE IT'LL LOOK GOOD ENOUGH
...THE FINISHER KNEW I WAS BAD, BUT HE DIDN'T KNOW WHY. I WISH I'D HAD THE RIGHT START IN LIFE!
TOO BAD YOUR THROWSTER DIDN'T FOLLOW THE SPECIALIZED NOPCO SOAKING TREATMENTS
SEND FOR OUR LITERATURE ON THESE TREATMENTS... AND PROFIT THROUGH OUR EXPERIENCE

OUR contact with the throwing industry has enabled us to develop rayon soaking treatments for practically any type of rayon and cloth construction. If you are throwing coarse, fine, sheet, flat or special crepes, don't miss sending for this literature. It will help you with your problem. Just fill in and mail the coupon.

**National Oil Products Co.**
HARRISON, N. J.
BOSTON CHICAGO SAN FRANCISCO

NOPCO
Members of the Throwsters Research Institute

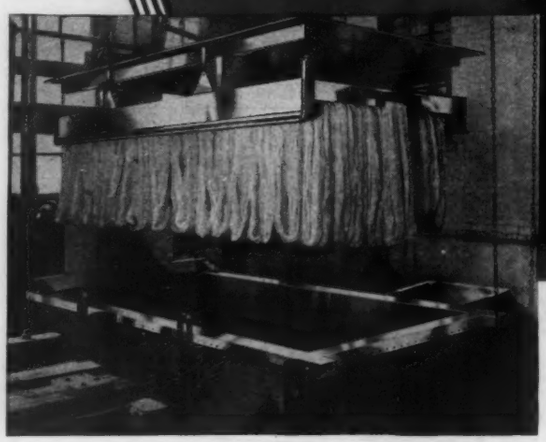
Please send me the free Rayon Soaking literature.

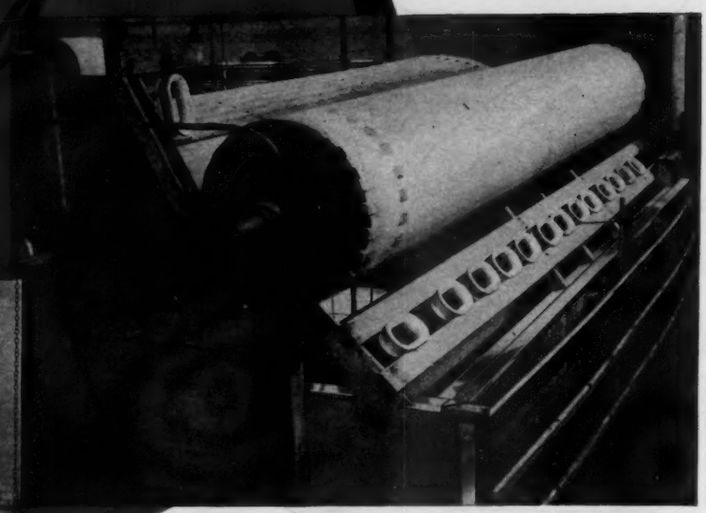
Name _____

Company _____ C-9

Why..

PAY FOR EQUIPMENT OVER AND OVER AGAIN ?





Stainless ENDURO

ENDS EQUIPMENT REPLACEMENT AND MAINTENANCE COSTS IN MANY APPLICATIONS!

The value of a permanent metal for your equipment needs can quickly be ascertained from your cost sheets. The characteristics of a metal which will end these high replacement and maintenance items, are certainly worth knowing about. • Stainless ENDURO is recognized throughout all industry as the permanent metal. For the textile plant, there are many equipment applications in dyeing, bleaching and tin-weighting where ENDURO is giving care-free service. Being resistent to corrosion and rusting, the metal remains unaffected; and stains, spots and re-dyes are eliminated. Color changes can be made quickly as only a rinsing is necessary. And the smooth surface of ENDURO safeguards even the most delicate fibres against damage. • Another point to consider carefully is the fact that ENDURO *is* steel . . . with all the strength which only steel affords. Thus it can withstand the severest service of the textile plant, without denting or scratching. This assures additional years of trouble-free service. Write now for full details on this permanent metal.

ENDURO
REPUBLIC'S PERFECTED STAINLESS STEEL
Licensed under Chemical Foundation Patents Nos. 1316817 and 1339378. ENDURO is sold only through Republic Sales Offices and Authorized Distributors

CENTRAL ALLOY DIVISION . . . MASSILLON, OHIO
REPUBLIC STEEL CORPORATION
GENERAL OFFICES YOUNGSTOWN, OHIO

Vol. 98

# COTTON

No. 9

September, 1934

W. R. C. SMITH, Publisher
T. W. McALLISTER, Editorial Director
ROBERT W. PHILIP, Editor

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Vol. 98
No. 9

COTTON

September,
1934

# New Moisture Content Control System on Slashers at the Walton Mill

**By Harry J. Horn, Superintendent**
Walton Cotton Mills Company
Monroe, Georgia

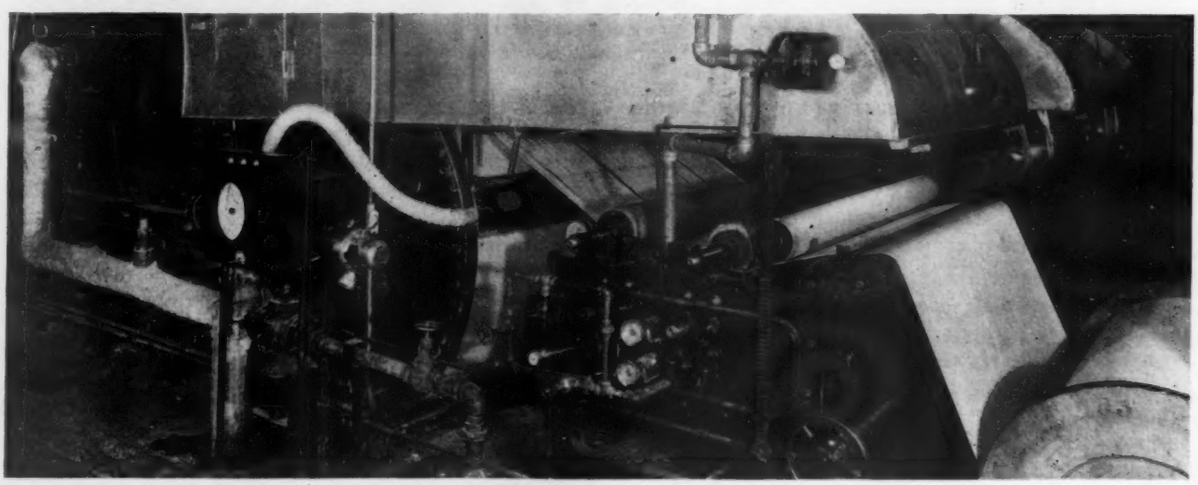
MOST mills have within recent years begun to realize the importance of having the correct moisture content in the warp yarn as it goes from the slasher to the loom. The value of determining the correct amount of moisture and of maintaining it in the warps from day to day is apparent to the mill man, who knows the benefits derived in the weave room, in the way of less loom stoppage, a better feel and finish for the cloth, and more uniform weights, through the control of this factor.

In our own efforts to arrive at an accurate and dependable method of moisture content control, after giving considerable thought to the matter, we consulted with an engineer whose work and experience in moisture and temperature regulation had carried him into many industrial fields, and our conferences resulted in the development and application to our slashers of a new method of moisture content control which embodies principles new in cotton manufacturing but successfully applied in other industries. I shall endeavor to describe this system in this short article.

One novel feature of this method is that with it, the regulation is obtained directly from the product itself (the warp yarn) as it passes through the slasher, and not through mechanical means operating in accordance with temperature change in or near any part of the slasher itself. That is, we regulate the amount of moisture left in the yarn in accordance with changes in the moisture content of the yarn itself, as revealed by a sensitive mechanism included in the control system.

This principle is based on an established fact of physics, which has been successfully used for years in controlling the moisture content of paper during its manufacture. That fact is that the moisture content of any hygroscopic material varies directly as the wet bulb temperature varies. Inasmuch as changes in the moisture content of the cotton warp, as it passes through the slasher, are perceptible to the eye in the form of changes in the amount of vapors arising from the warp, it is obvious that the amount of moisture in the warp varies directly as the amount of vapor leaving the warp changes in volume.

The operation of the instrument, which immediately changes the speed of the slasher as the moisture content of the yarn shows change, as reflected by a change in the volume of vapor leaving the warp, may

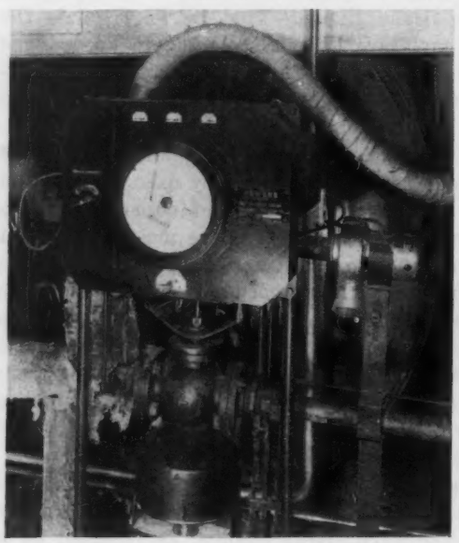


A general view of the new moisture content control system on one of the Walton Cotton Mill slashers. The conditioning chamber, with indicating and recording chart, is seen with suction fan which draws air from warp through the "receiver" connected to the chamber by flexible tube. Size box control at right . .

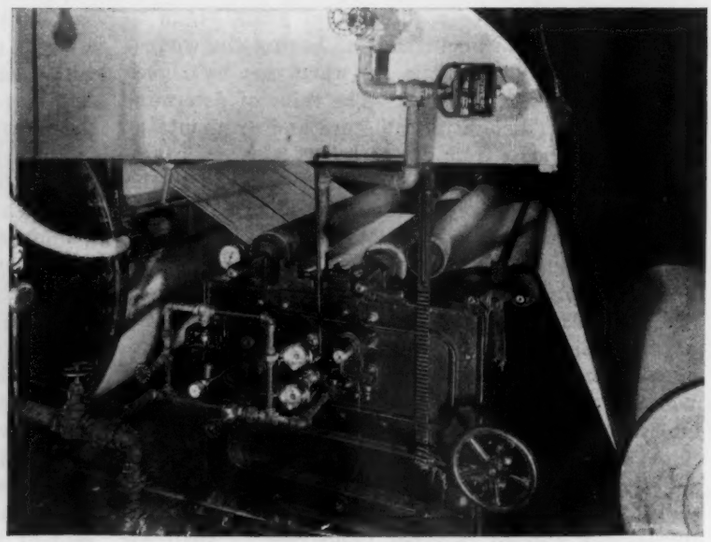
be described as follows:

A part known as a receiver, a copper receptacle with one open side, is placed at a point where a continuous sample of warp is passing the open side. In our case, this receiver is in the form of a box-like structure placed over the sheet of warp just before it leaves the small cylinder, with the open side toward the warp and cylinder, and a flap of canvas on the lower edge.

This receiver is connected to a conditioning chamber by a short piece of insulated tube. Out of the other end of the conditioning chamber, which is a 6"x6"x20" box, is an opening leading to a constant duty electric suction fan. This fan conveys a continuous sample of the moisture condition of the warp through the conditioning chamber, which with the suction fan, as will be noted in the accompanying illustration, is located at the side of the slasher. Located next to the conditioning chamber is an instrument case containing the moisture content recorder controller, and air-operated steam pressure control.



The instrument case, containing the conditioning chamber and indicating-recording chart, showing suction fan and flexible tube through which air is drawn from warp . .



The copper "receiver" is seen over the sheet of warp just before it leaves the small cylinder. The flexible tube conveys the moisture condition of the warp to the conditioning chamber which is shown in illustration at left . . . . . .

The controller is a super-sensitive air-operated thermostatic instrument, with an element sensitive to moisture changes which is located in the conditioning chamber. The controller delivers air pressure changes to a speed changing device connected to the screw-shaft of the regular cone belt-shifter.

There are several ways of operating the belt-shifter or other types of speed transmission. Two of the methods used in this system are a pneumatically operated reversible clutch and a reversible electric motor. The power for the reversible clutch is secured from the slasher by gear, pulley, etc. In the case of the reversible electric motor, which is the method we use, its reversing is obtained by use of a pneumatic electro control.

Thus, I believe it will be clear that with any change in the volume of the vapor being drawn into the receiver by the constantly operating suction fan —indicating directly a change in the amount of moisture in the yarn—the mechanism described instantly operates to change the speed of the slasher or the rate of speed at which the yarn is passing over the drying cylinders. If less moisture than the required amount is indicated, the speed-changing mechanism operates in the direction necessary to speed up the machine; if more moisture than is desired shows up the cone-belt is moved in the other direction to decrease the machine speed.

We maintain for any given set of yarn a fixed steam pressure in the drying cylinders, effecting the change in amount of moisture left in the yarn by varying the speed of the slasher. This principle may be explained by a simple illustration. If a man were to take a yard of warp yarn and hold it in contact with a cylinder of definite temperature for 20 seconds, the yarn would be dried out more than if it were held against the cylinder for 10 seconds.

Probably the most important feature of this system is that the moisture content controller can be set for any predetermined moisture content required, and this setting need not be changed as the warps being run vary in structure, providing the same moisture content is desired for all warps. The steam pressure control is set for two divisions of warps in the range that we run, one setting for light warps and one for heavy warps. The heavy-warp steam setting will take care of the heaviest warp run at the highest speed. There is a great difference between the steam pressure setting for the heavy warps and for the light warps; the latter setting also permits the lightest warps to be run at the maximum speed.

It is obvious that with a given constant steam pressure setting, the slasher will operate automatically at a higher speed on light warps than on heavier warps, and the same uniformity of final moisture con-

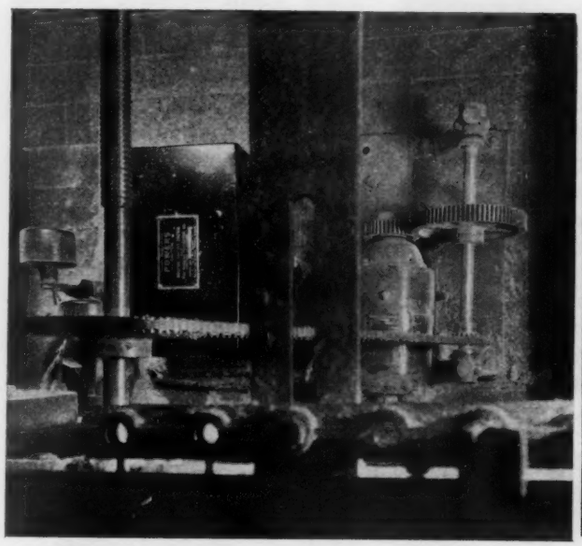
tent will be obtained. The steam saving when running light warps will be obvious.

Incorporated within the instrument case is a device which indicates and furnishes a continuous record of the control of the moisture condition of the warp.

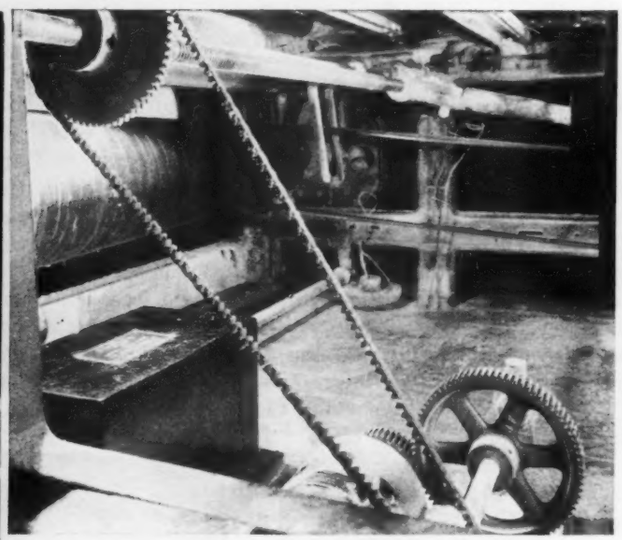
The air-operated steam pressure control operates in conjunction with a double pressure reducing valve. This valve and instrument are so constructed that the steam pressure can be changed by a key adjustment on the instrument case.

The double pressure reducing valve is set so that if the air pressure supply should fail, thus making the air-operated steam pressure control ineffective, it would control the steam supply to the cylinders at the maximum required steam pressure.

Auxiliary devices are included in both the electrical and air circuits affecting the steam pressure, high slasher speed, low slasher speed, and slasher stops. Further, the system also includes a self-contained steam control valve which takes complete control of steam service in case of failure of the air pressure supply and electrical service, and which is interlocked with equipment for continuing slasher operation at the last controlled speed in the event of the service failures mentioned.



Looking down on the reversible motor and control through which changes in the moisture condition of the warp are transmitted to change the slasher speed with the regular cone-belt shifter . . .



A side view of the reversible electric motor, showing how it is connected by chain to the screw-shaft of the regular cone-belt shifter, for effecting change in slasher speed . . . . . .

We have on the size box an automatic temperature control which consists of an air-operated thermostatic instrument that controls the steam supply to the size box. This, we feel, is a very important feature in the moisture content control inasmuch as it insures the warp leaving the size box at a constant temperature, and also maintains a definite viscosity of size which is necessary to secure a constant rate of penetration of size, and we have found that satisfactory moisture content control necessitates a consistent degree of size penetration. By means of gradual control of the steam going into the size box, we maintain a constant universal agitation of the size which will not permit the size to boil violently and spot the warp after it has left the squeeze rolls with free size, or cause a skimming over when the control valve would be completely closed.

We maintain the level of the size in the size box automatically by the use of an air-operated thermostatic instrument which controls the action of a valve located in the size supply line to the size box. The size level gains its importance in connection with the immersion roll. The latter roll is adjustable for the purpose of guiding the warp to various depths in the size box to secure ample penetration for different grades of warp. Inasmuch as the depth of the immersion roll is measured from the surface of the size, it naturally follows that a fluctuating size level would defeat the purpose of the immersion roll.

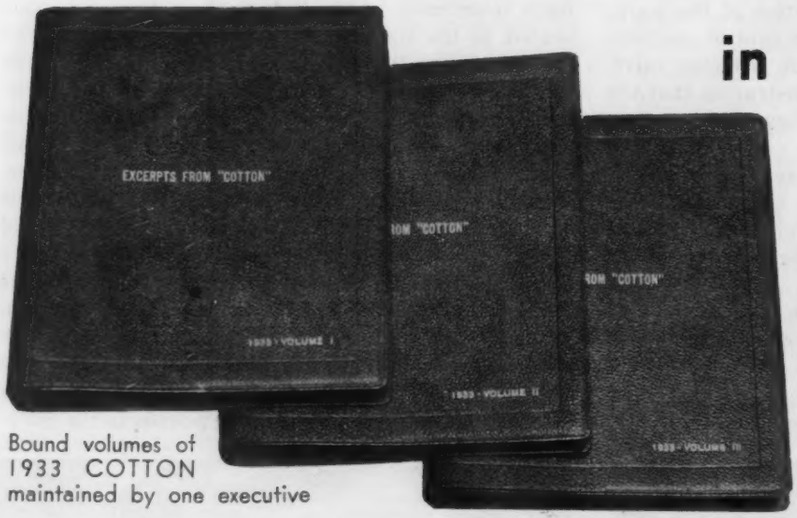
Aside from the obvious advantages secured in the weave room, in better running warps and better cloth, resulting from more uniform moisture content, we have secured benefits of a definite character in the slasher room. Previously, without this control, we ran with steam pressures up to 10 pounds in the cylinder, and were bothered by changes in the quality of the steam from time to time. With the control, we run with pressures of around 2 pounds on some sets, and, since we regulate from the actual moisture content of the yarn itself, our results are not affected by changes in the character of the steam.

A very important factor in this system, to our mind, is that the control, operating from the yarn itself, takes into account all changes in the atmospheric condition of the slasher room itself and allows for their effect upon the moisture content of the yarn.

The entire mechanism is simple and easy of operation, being merely the application to this job of several standard control instruments. It practically eliminates the human element in connection with the control, and is automatic throughout in its operation.

Mr. Frank E. P. Klages, research engineer of the Powers Regulator Company, Chicago, is the engineer who applied the system to our slashers, and it is a product of that company.

# Permanent Dividends from Articles in COTTON

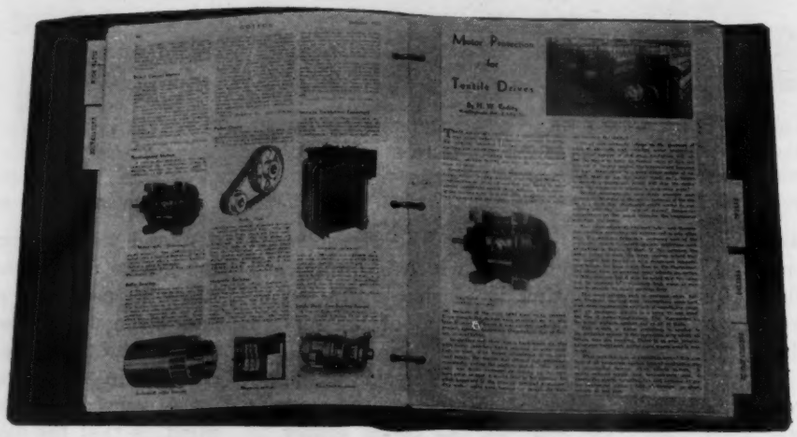



Bound volumes of 1933 COTTON maintained by one executive

THE executive in charge of manufacturing in a group of southern mills is responsible for this story. This man, with one of the most responsible positions in the industry, desiring to file for permanent and constant use the articles published in COTTON during 1933, preserved his copies of the twelve issues of that year, and recently finished the compilation of three uniform, leather-bound loose-leaf note-books devoted exclusively to these articles, which are classified according to the various mill departments and subjects of interest to this man, such as Carding, Spinning, Weaving, Cloth Room, Maintenance, Dyeing, Testing, etc.

The accompanying illustrations of these volumes of material from COTTON during 1933 show (1) the three books, printed in gold letters "Excerpts from COTTON"—Vol. I, Vol. II, and Volume III; and (2) Volume III opened at random, showing how the articles are pasted in, and the tabs which classify by subjects the articles in this particular book.

This man had practically completed the preparation of these books when we learned that he was doing this, and when they were finished, he graciously permitted us to examine and photograph them.



A peep inside of one of the bound volumes described herein, showing the method of filing, the tabs for subjects, etc. The tabs in this volume cover Cloth Room, Maintenance, Dyeing, Testing and Miscellaneous

We analyzed the articles in the books. It was interesting to note that three volumes were needed to hold the articles published in one year of interest to this man. But we wanted to know which and how many of the articles we had published during 1933 would interest this man, whose several plants are spinning, weaving and dyeing units (not rayon, bleaching, knitting, etc.) sufficiently that he would want to classify and file them permanently. In the three volumes there are 236 pages, representing 42 feature articles; 102 articles discussing practical mill subjects; and 289 items of new equipment, machinery, etc., as well as a number of advertisements.

This example confirms three points which we have stressed many times: (1) that the character of the material published in COTTON generally is such that it is usable months and years following publication; (2) that a systematic file of the issues, or selected articles, will build up an incomparable library of practical and valuable mill information; and (3) that many mill men *do* follow this practice. A superintendent in New England recently sent us for inspection his file of COTTON for 1933. He had retained the complete 12 copies, punched holes in the margin, and bound them in a heavy cloth-board post binder. He wanted us to punch holes in the margin of each issue, as published, to make this kind of filing convenient. A knitting mill manager regularly clips the Knitting Section of the magazine for permanent filing. On a recent visit to a bleachery, the plant manager showed us a file he was building of the recently completed series by J. Andrew Clark, on the basic raw materials used in finishing.

We are showing the southern executive's note-books as a means of impressing upon readers who are

not now doing so, the great value and usefulness of preserving, either by saving the complete issues, or clipping at the time of publication and filing under subjects articles of interest.

As good and as timely as we feel our articles are at the time of publication, we realize that for any individual subscriber, a certain article might not have especial interest, but continual requests we receive from readers asking for clippings of articles we have published is practically proof positive that articles we publish in January, for example, assume tremendous interest to the same individual who noted them casually, perhaps, when, say, in July, conditions with him have concentrated his interest in the subjects covered.

The man who doesn't preserve his copies, with some means of quick reference by subjects, either doesn't have the full benefit of such articles, or asks us for copies of them.

We have now available a limited supply of a comprehensive topical cross-index of the articles published in COTTON during 1933. A copy will be sent upon request to any subscriber who has a complete file of the magazine for that year. This cross-index lists the articles by subjects; it shows, for example, all of the material published in 1933 on Carding, on Spinning, on Weaving, etc., showing the issues and page numbers in which the articles listed appeared.

But, please don't ask for a cross-index unless you have all of the 1933 issues, because we cannot supply any that are missing, for our supply for distribution of most of them is now exhausted.

At the end of 1934, a similar cross-index of the articles published this year will be prepared and it will be available to any who have all of the 1934 issues.

After all, subscribers not now saving their copies of COTTON should realize that 12 copies of the magazine occupy, relatively, a small amount of space in the bookcase; no more, surely, than several copies of books and catalogs which, in the nature of things, cannot contain the varied, fresh and up-to-date experiences and opinions on a wide range of subjects by hundreds of experienced mill men—such as may be found in 12 issues of COTTON.

But, anyway, whether by clipping selected articles, like our southern friend, or by binding (inexpensively) the complete issues like the man in New England, or any other method, we shall be glad to have more readers preserve the material we publish, so that our efforts may be permitted to attain broader and more useful ends.

## Providing Speed Changes for Different Yarns on Bobbin Winders

By C. A. Jones

Director, the A. French Textile School
Georgia School of Technology, Atlanta, Georgia

SEVERAL months ago we installed, for experimental purposes, a mechanical variable speed transmission on an 18-spindle bottle bobbin winder to determine, if possible, whether variation of spindle speeds would give improved results in winding yarns of various types and numbers.

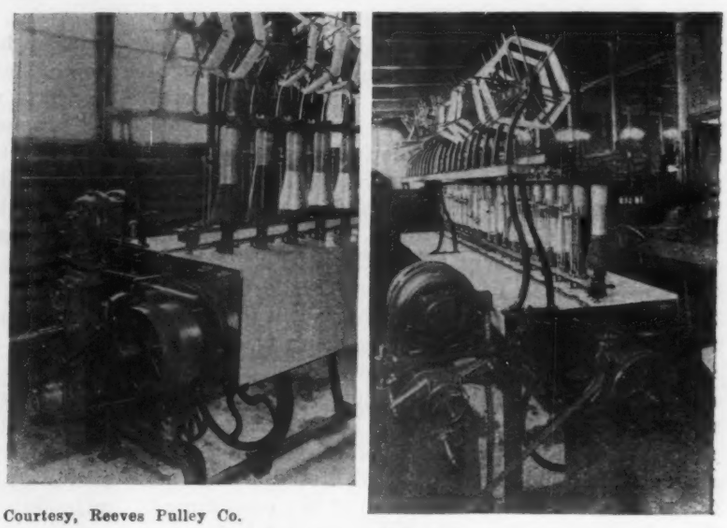
During this period frequent tests were run, both with and without the use of adjustable speed control, and results in each case carefully noted.

Each test clearly showed the important advantages of spindle speeds which could be instantly and accurately adjusted over an infinite number of speeds between the predetermined maximum and minimum. In this particular case, the variation was from 80 to 400 r.p.m.

Rayon and cotton yarns of varying count and tensile strength were used, and we found that speed variation gave us greatly increased production on the coarser yarns, at the same time providing the exact speed most suitable for winding each particular kind and number of yarn.

The speed control unit used is of a type used generally in the textile industry, in which two sets of cone-faced discs, running on parallel shafts, are varied in diameter by a V-belt which assumes different driving diameters as determined by the operation of a speed-adjusting handwheel. It is driven from a 1½ hp. motor of 1200 r.p.m. From a 3-inch pulley on the motor shaft, a flat belt drives to a 7-inch pulley on one shaft of the variable speed transmission, which it operates at constant speed. From the other shaft, driven at variable speeds as required, a belt drives from a 4-inch pulley to a 10-inch pulley on the head shaft of the winding machine.

We found this hook-up very satisfactory for our purposes, providing exact control of spindle speeds as required. These speeds could be varied to the smallest fraction of an r.p.m. instantly, and, once established, a given speed was maintained positively and without the slightest variation as long as desired.



Courtesy, Reeves Pulley Co.

Variable speed drive on bottle bobbin winders

# Some Comments on the General Strike in the Textile Industry

THE general textile strike, announced by the United Textile Workers, affiliate of the American Federation of Labor, to affect all employees in the cotton-textile, rayon, silk and wool industries, was called to be effective at 11:30 P. M. on Saturday, September 1. It thus was to become practically effective first on Monday, September 3, in such mills as operated on Labor Day, and then on Tuesday morning, September 4. While the several branches of the textile industry named were to be affected, the movement for the strike started with the union in the cotton-textile branch.

This comment is written on Tuesday, September 4, and thus can include no accurate information of a broad nature as to the extent to which the strike is effective at this time. A hasty survey this morning in one southern state showed that more than half of the state's spindles were operating; the remainder being closed either from decision of the individual managements not to open, from intimidation from groups of pickets, and from refusal on the part of others.

While no report can be made at this time concerning the effectiveness of the strike order, it may be proper to investigate some of the background of the called strike. The avowed purposes of the strike movement, headed by Francis J. Gorman as chairman of the strike committee of the union, is to force the industry to recognize the U. T. W. as the bargaining agency for employees; to secure shorter hours of work, and an increase in wages; and "the elimination of the stretch-out system".

Plans for the strike were put in motion at the convention of U. T. W. in mid-August. The union flatly refused arbitration through the agency created by the cotton-textile code for handling human relations in the industry. They rejected official government reports which established that until general business makes an advance, and the general income is possible, it is not yet possible to increase the wage provisions as contained in the code. This code, as is well known in the industry, and as was brought out clearly by George A. Sloan, who withdrew his resignation as president of the Cotton-Textile Institute and chairman of the Cotton Textile Code Authority, raised the hourly rates of pay in the industry 70 per cent; reduced working hours from an average of 54 to a maximum of 40 hours per week; added 140,000 people to the industry's payrolls between March and August 1933. In the face of these and other effects beneficial to labor, resulting from a code which had been approved after mutual conferences between representatives of the government, the industry, and labor, the union decided to demand changes in the code which had effected within one year changes equal to any evolution previously accomplished in a generation.

This attitude, then, rather clearly defined the general textile strike as a strike at and against the NRA and the entire recovery program.

One appeal of the union in behalf of the strike was the public assurance to workers that strikers would be provided with relief from government relief agencies. This represents one of the most unfortunate features of the whole development. The FERA has issued a pronouncement that each individual appeal for assistance from it will be considered on the merits of the individual case. It is hoped that this declaration will be carried out in fact; that the government will take a firm stand and not by inference and direct support encourage a continuance of the strike and thus assist the very element which is doing most to retard the recovery program.

If the percentage of mills closed, as quoted, is general throughout the industry, then the support of the strike is by no means as extensive as even those figures show. We have personal knowledge of many individual cases where at least 75 per cent of the mill employees would gladly resume their work in mills closed down by picketing or otherwise, were it not for the intimidation of the few leading the strike movement. True it is that at best, the organization sponsoring the strike represents only a minimum of the employees of the industry, and, as pointed out by Mr. Sloan, "We cannot accept as justified the violent procedure of a strike against a government code. We contend that the New Deal meant to offer a guarantee of economic liberty to employees—a real freedom of choice in their relationship to their employers. If there be any question as to the rights of minorities, there can be none as to the rights of majorities. The American people will not permit a majority body of American men and women to be coerced into an organization to whose leadership they have not given their allegiance, to whose financial support they do not desire to contribute.

There is no question as to the eventual outcome of the strike. "All strikes are tragedies. The workers lose their pay, the mills lose their production, and the American public pays the bill. It has been proven economically that no one wins a war. It has also been demonstrated that no one wins a strike." So, with the industry standing firmly upon its code, there can be no doubt that it merits full support in its stand, but meanwhile, industrial chaos, hungry people, lost investments, bloodshed and unjust feeling and strife, must be the price paid by a people, a minority of whom have suffered themselves to be misled against their own interests, the remainder intimidated and threatened and deprived of their constitutional right to work, through force, violence and threat.

# Some Thoughts on Contentment

THE world is seething with unrest and discontent. There is open talk of war in Europe; Japan and Russia are reported ready to fly at each other's throats; in our country every newspaper recounts fresh stories of riots and strikes. Everyone seems discontented. Probably if a few million persons could be questioned as to the source of their discontentment, they would have only vague reasons to offer, as most of it is due entirely to changed conditions, and people don't like to have their conditions changed—even for the better. They may think they do, but they don't. Right now in this country we have the spectacle of thousands of people rioting in protest against steady work and good wages, while other thousands are threatening to follow their example. It seems silly, and it is silly, but they are doing it.

It is so easy to be dissatisfied; so easy to be beguiled by the professional trouble maker with a recital of our wrongs. How simple it is for the politicians of a weakling European country to stir up its people to a destructive war with its neighbors—over nothing. How skillfully the politician pictures the fancied wrongs which must be redressed. How easy it is for the professional trouble maker to stir up trouble anywhere. If there is no trouble, he will make it, for it seems a part of human nature to be forever discontented, or on the verge of discontent.

If all of the agitators for changes in this, that, and the other thing could have their wishes granted in full today, it would only be a few weeks until they would be back with a bigger and nuttier bunch of demands than before. You can't satisfy people by giving them what they want—at least it never has been done.

Contentment is a quality of the mind, and must be achieved separately by each individual. Perfect contentment is rare, and very undesirable, as it indicates a state of mental stagnation. A person who is absolutely contented for any length of time is probably as dumb as a cow chewing her cud. A certain amount of intelligent discontent is necessary. It is a stimulus to ambition and progress, but it must be intelligent, not simply a vague, aimless feeling that the world is a rotten place in which to live and that it is someone else's fault.

This seems to be at the bottom of most of our restlessness today; this feeling that everything is rotten and somebody else is to blame for it. Perhaps this condition is unavoidable in a civilization where the vast majority of people get their living out of a pay envelope. It is so easy to persuade a person that there isn't enough in the pay envelope and that by a simple gesture on the part of the boss the amount can be increased. When practically everybody lived on the soil and got their living from it, it was easy to see that a certain patch of land, if fairly well tended, would yield a certain crop; if better tended, a better crop. It was easy to see the processes by which live stock multiplied, and to establish a measure by which a man might count himself contented with the results of his labor.

It is far more difficult if the same man is tending a machine or keeping a set of books, or doing any of the thousands of things that men may do in this modern world for a living. Under these conditions the worker only realizes that his living comes through the boss, and he does not understand that the boss is hedged about with the same limitations that circumscribe a farmer trying to get more off of an acre than an acre will produce. Cotton mill employees have seen their hours reduced from 55 hours to 40 hours a week, while at the same time in many instances their wages have been doubled. The professional agitator points to this as proof that there is no reason why hours cannot be further reduced and wages further increased.

The average mill hand is not an economist, and the argument may appeal to him. If he was back on the farm and the same agitator came and told him that it was foolish to work so hard, and that if he would only work half as many hours and use half as much fertilizer, he could raise twice as much cotton, the agitator would not get very far, because this would be something the mill hand could understand. The same argument applied to work in the mill unfortunately finds some believers. It is going to be one of the serious problems of management in mills to correct many of the fantastic impressions created by agitators and propagandists whose only object is to make trouble; to stir up discontent.

Previously these agitators could be pitched out on their ears, but now they have a free hand and cannot be disciplined. That they will do any real harm is doubtful if the management measures up to its responsibilities, but sowing the seed of discontent is one of the easiest occupations, and one which often yields an abundant harvest if the soil is fertile. It is up to the mill managements to see that there is no such fertile soil on their premises.

# Lest We Forget
# Production Control Is a Necessity

**By Dunhill Marsden**

JUST a little review of the record, which will refresh your mind on several vital points:

That mills are entitled to a profit;

That production control has been proven feasible;

That in return for its unprecedented benefits under the code, Labor must co-operate in granting the industry itself its natural rights . . . . . .

WHEN Code No. 1, the Code of Fair Competition for the Cotton-Textile Industry, was written, Paragraph 3 read "on and after the effective date employers in the cotton-textile industry shall not operate on a schedule of hours of labor for their employees [with certain exceptions] in excess of 40 hours per week and they shall not operate productive machinery in the cotton-textile industry for more than two shifts of 40 hours each per week". This paragraph was written after much study had been given to the subject by individual members of the cotton-textile industry, composite figures gathered and studied by the cost department of The Cotton-Textile Institute, and finally by Dr. Alexander Sachs, expert in the economic planning department of the National Recovery Administration.

At the time these basic hours were included in the code, it was not anticipated that demand for some time would be such that it would require the full operation of spindles and looms in the maximum amount permitted in the code.

Every one who has any knowledge of present conditions, as well as of the seasonal conditions which have always been a part of the textile industry, knows that it is impossible to indicate a required maximum running time of the machinery in an industry as large as the cotton-textile industry that will sufficiently meet either the demand of the present disarrangement of economic factors, or the seasonal demand which is a natural factor in the industry.

These facts were established at the time the code was formulated in the presence of representatives of the industry, representatives of the government, representatives of labor, and representatives of the consumers' committee.

The point I am trying to make clear, in the beginning, is that in the formulation of the code and code hours to be operated that there was nothing secretive, or evasive, or camouflaged. The facts were brought out in the open. In short, it was firmly established in the organization of the code that there must be some latitude in the operation of looms and spindles of the various units of the industry.

I think it is a statement of fact to record that the main purpose of the Recovery Administration was to put people back to work—to do something for the millions of unemployed—and, in order to do this, industrial and business economic recovery had to be established, otherwise there could be and would be no opportunity for work.

In studying the cotton-textile code, it is very evident that practically every paragraph in it deals with the economic and social betterment of labor with the possible exception of one or two paragraphs.

Paragraph 4 states that on and after the effective date employers of the industry shall not employ any minor under the age of 16 years. Paragraph 2 states that no employee, with certain minor exceptions, shall be allowed or permitted to work in excess of 40 hours per week; and the minimum wage in the South shall be $12.00 per week and in the North $13.00 per week for this 40 hours of labor. Paragraph 8 recites literally the law of Section 7-A of the National Industrial Recovery Administration regarding the right to organize and bargain collectively, etc.

Not only do these three paragraphs indicate a distinct effort to improve employment and the conditions of people employed, but throughout other paragraphs there are various implications that the relationships of labor to the cotton-textile industry have not been forgotten or overlooked.

In return for what the industry has agreed to do to improve employment and labor conditions, there is but one outstanding paragraph that gives to industry a direct opportunity to improve its own condition, and that is the control of plant expansion and machine hours. It is the only means by which the industry can improve its economic condition so that it can employ people and pay the wages expected of it.

In the formulation of the code, it was not even anticipated that the government would unduly hesitate and quibble and question the demands of the industry for either an industry-wide curtailment or a particular group curtailment because it was felt at the time the code was written and adopted that this right of the various members of the industry and this right of the code authority was to be regarded as inviolate so long as their requests were fair and equitable, and sustained by a statistical presentation of facts.

However, much water has gone over the dam since July 16, 1933. Many understandings have seemingly been forgotten. The improvement in economic conditions immediately following the estab-

lishment of the code, the speeding up of the industry to the two full shifts, the increase in wages, and the re-employment of more than 100,000 idle people in the industry caused many to feel that the depression was over and the halcyon days of pre-depression were back again. This was merely an hallucination.

During all the years of the experience of the cotton-textile industry, the summer months have always been months of slowing down, months of dullness, sub-normal activity. That has happened this year just as it has in all other years and will happen in the years to come. It has occurred rather pronouncedly as an industry-wide problem during the last three months, although various groups have needed prior to that time and, in instances, have been allowed the privilege of curtailment.

In the recent discussion of the 25 per cent curtailment over a period of three four-week blocks, labor apparently forgot its delightful pronouncements and its understandings and stepped in with the threat of a strike to force conditions unendurable by an already depressed industry, which, in a large measure, is not to blame for its condition, but which has been crowded into its uneconomic condition by the pressure of general conditions and government-imposed problems such as the processing tax.

The politicians also began to look askance at the operating hours of the industry, when they asked for this curtailment, as though they might desire to have enacted a national statute establishing forever and finally the 30-hour week for labor.

Therefore, in the settlement of the June strike threat, General Johnson agreed that he would have the research department of the NRA make a new study of the hours necessary for the cotton-textile industry to operate their machines, and also the wage question.

The result of these two findings is well known. The research and planning department of NRA established the fact that hours *longer than 80* are required for the cotton-textile industry to supply anything like a normal demand for its products and that, insofar as the wage question was involved, it was distinctly of the opinion that to raise the basic minimum wages in the cotton-textile industry is an economic impossibility because the consuming public could not be expected to absorb any more costs than are now normally being passed on to them.

### A Loss Instead of a Profit

The statements just made may seem irrelevant in discussing the subject of curtailment, but they are not, because these studies were made necessary by the fact that some months ago the industry desired to improve its economic condition by means of the curtailment program and labor was not only not co-operative but antagonistic, questioning the right of industry to govern its economic progress.

Regardless of social reform and conflicting theories of economic recovery, one indisputable fact stands out—that those industries and businesses that furnish the means for employment must be made economically sound, or they will cease to exist, and the means of effectuating recovery plans of the New Deal will thus be thwarted. Reliable statistics show that there are invested in the cotton-textile industry fixed assets and working capital to the amount of approximately $1,250,000,000; further statistics show that during the last five years that this industry has had an average loss of $2,800,000. It does not take much intelligence to divide the average loss of these five years into the total investment and arrive at the conclusion that, with conditions progressing as they are today, the industry is rapidly dissolving itself.

IN considering day-to-day problems under the New Deal—such as threatened strikes, processing taxes, etc.—we must never forget Fundamentals. This article draws attention to some important truths which must not be overlooked. These facts are stated clearly, concisely and helpfully . . .

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The industry does not desire for this to happen because it feels that it is discharging an economic responsibility, an economic need in the national life; it is supplying to people a major need, and is giving to at least one-half million people direct economic support, and indirectly contributing to at least two millions.

The cotton-textile industry, through its code authority, has accepted the invitation of the government to become its partner and is distinctly expecting to share in partnership rights. It has entered into a formal contract, one paragraph of which is that the industry shall have the power and privilege of adjusting its operations in such a way that it may make a fair and equitable return upon its investments of time, energy, brains and money.

The government, in taking over the control of the railroads and utilities, had quite a discussion over the theory of public interests, and I am of the opinion that the question of curtailment, as considered by the public and by the government today, is largely looked at from the viewpoint of public interest. In the discussion between the government and the railroads, this cardinal tenet was established—"No act of Government shall defeat the right of any business affected by Government control to earn a fair and reasonable return upon its investment, used and useful in the public service".

This principle has been repeatedly upheld by the courts—State, Federal and Supreme—on the ground that anything less would "constitute confiscation of property" within the meaning of the constitution. In the instance of railroads, they have determined that a fair and reasonable return is 5¾ per cent; in the instance of public utilities, it is from 6 to 8 per cent; in the instance of telephone companies, it is 9 per cent. It occurs to me that this principle in reference to railroads and utilities and the returns allowed to them concern us now in this question under discussion.

One of our outstanding textile economists and cotton merchants says:

"Just as surely as the 'power to tax is the power to destroy' our right to control production carries the

right to make fair and reasonable profitable operation the rule and not the exception in this industry. This is the thing we bargained for, this is the thing we have paid for, this is the thing we are entitled to receive and if we fail to get it we have every right to repudiate the whole trade, for Code Number One either means just that or it does not mean anything at all.

"On the other hand if we would preserve our new found power we must exercise it with judgment and discretion. Whenever we restrict production to the point of profitable return we must make certain that the prices then obtained are 'fair and reasonable' and that no taint of profiteering attaches. At the first hint of such a contingency, we must be just as ready to loosen the strings of supply as we were to tighten them".

It has been estimated that a fair and reasonable return in so far as the cotton-textile industry return is concerned is 7 per cent on investment. When this percentage is figured on the investment, it shows that the industry should be receiving approximately $78,000,000 as a fair and reasonable return when the real facts are, as we have stated previously, the industry is losing about $2,800,000 annually.

As has been indicated, production control rather than price fixing is the only means the Cotton Textile Code Authority has decided upon as the economic measure for forcing a fair and legitimate profit on their production. It is also well known that, in using this means, it has always been employed too late and been stopped too soon.

The signs of over-production proceed through four stages:

1st ----------Surplus machinery
2nd----------Deficient orders
3rd----------Accumulation of stocks
4th----------Demoralized markets

Any one of these four stages is highly determined and they are progressive steps. Although surplus machinery is a little hard to detect and locate, it is the incipient stage foreboding a demoralized market, and curtailment should be taken in the early stage rather than in the demoralized market stage in which it is largely inaugurated. The period of demoralized market condition is the worst possible situation for the industry.

It is also well known that curtailment is stopped just before its beneficient effects are reached. For that reason, it has been suggested that at this particular time when curtailment has not effected the desired results and, since the control of production is the only means and methods available under the decisions of the Code Authority, it is felt that the industry should pursue this method completely at this time in order to find out whether or not the theory is correct. If it is, then it can be used as a permanent method; if not, it can be "scrapped" and some other device worked out.

It is the opinion of the writer that the means and methods suggested—that is control of production within certain limits—are fair and just and that the cotton-textile industry, in co-operation with the government, has a right to control its industry within certain legitimate limits when it is clearly and fully established that the industry is endeavoring to work no hardship upon labor, is not attempting to "gouge" the public, is not attempting to create for itself unholy profits, that the government, labor and the public should co-operate rather than criticize when the industry makes this valued move.

In conclusion, the one main central thought I have tried to bring through this course of reasoning is that the cotton-textile industry, in co-operation with the government in trying to effectuate reform and recovery, has certain inalienable rights to make reasonable profit upon its investment and its efforts, and it has an inalienable right to effectuate these measures in accordance with the understanding that it has had with the government and with labor, and that when these curtailment periods are necessary and it has been proved conclusively that they are necessary, they should be accepted by all parties in good faith.

Economic conditions change, as well as the seasonal purchase of cotton goods; therefore, it is necessary for the industry to have an elastic program within reason. The program that has been outlined and put into operation down to the present time has had both of these characteristics. Legislators should realize that it is impossible for a national Congress to write rules of conduct in detail for industry. Experience teaches us that only principles can be set up, and that details of conformance with these principles are to be expected of a progressive people in the execution of the general principle.

Mr. Fred W. Shibley in his discussion of Production Planning in his book "The New Way to Net Profits" states, "he, who plans production, has both acquired knowledge and tradition to serve as guides and it is of the very essence of his plan that it shall be flexible, adapting and adjusting itself to unforeseen circumstances." Production control, as outlined by the principle in the Code of Fair Trade Practices of the Cotton-Textile Industry, portrays this sound principle.

## Old-Timer Short Shots

*There are ten good jobs where there is one good man.*

*It is easier to get day labor at* $1.50 *to* $2.00 *per day than to get experienced men at* $4.00 *to* $4.50 *per day.*

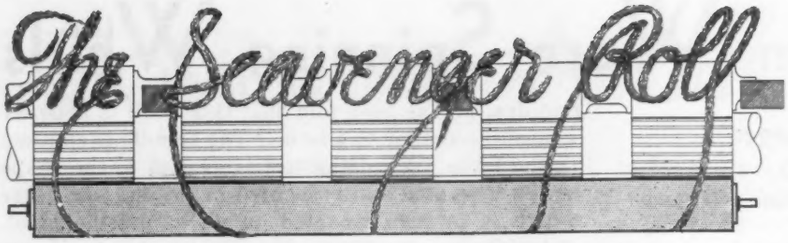
*There are more* $35.00 *overseers than there are* $60.00 *ones.*

*There are more* $5,000.00 *superintendents than there are of the* $10,000.00 *variety. Does not this prove the foregoing statement—that there are more good jobs than good men to fill them?*

*Prepare yourself for a better job and it will just as surely come as death and taxes.*

*Success follows knowledge. I have never seen the human being yet who was smart enough to turn that statement around, in actual practice.*

# The Scavenger Roll



SOME readers feel that, due to the name of this department, it is devoted entirely to spinning. This is not the case, because its purpose is to pick up ideas on any and all departments in the mill, from this mill and that, and deposit them here for you. The name derives from the similarity of this function and the purpose of the scavenger roll. Reprints of several of the previous installments are available upon request.

## Constructive Criticism

*Recently we made a short comment on the value of exchanging ideas with other mill men, and we stick by that statement. But we have heard some criticism of the conduct of these practical discussion sessions from some men we consider at the top of the mill operating profession. While some superficial criticism has always been heard of the tendency to make of these sessions too much of a social function, those who go to the fundamental purposes for which the organizations of practical operating executives were founded make more constructive criticism. Briefly, a very successful superintendent sums the matter up thusly: We do not give enough attention to technical research in these organizations. The opinions expressed are rarely backed by figures and no doubt are often what some of us believe rather than know. Say what you please, practical experimentation should be directed by technical research methods, and an organization of practical men should employ a technical expert to direct tests of various kinds run in different mills. In this way a lot of accurate information would be available that is not the case now, and this could be accomplished through the present organizations at little cost, while otherwise the expense would be enormous.*

## Tests that Mean Something

**This comment coming from a most practical mill man, who has spent his youth and is spending his mature years in the mill, and who has made an outstanding success of his job, impressed us forcibly. He illustrated his point by saying he is beginning a series of tests on double belts for loom drives, 12-foot centers, rather than the single belts he has always used. When his tests are completed he says he can say only that one or the other is the better for his particular conditions, while if a technical expert were conducting a series of tests in a dozen or more mills at once something could be discovered that would apply to practically every mill in the country. This made a deeper impression on us than usual because of a conversation with a young Englishman a few days before, in which he said the mills in England were less progressive in applying the results and findings of their research but that in the research itself they were going away ahead of this country. Let us hope our practical organizations will see this great opportunity, and with a little financial support from the mills themselves shall be able to grasp it.**

## More on Cockled Yarn

We are indebted to a reader in New England for the following comment:

"I notice in The Scavenger Roll on page 52 of the June number of COTTON, the author submits the following experience:

"'A mill bought second-hand spinning frames that had been run on 1-inch to 1⅛-inch cotton. They were started up this time on 120s, using 1$\frac{5}{16}$-inch to 1⅜-inch cotton. Light middle top rolls were used. Little semi-cockles were found in the yarn, these not being apparent until the spooler guides caught them. They were little larger than neps but were pretty big in proportion to 120s single yarn.'

"The Scavenger Roll stated that this trouble was eliminated by putting extra weight on the front top roll.

"It is apparent to me from this description that the light middle top roll used was too heavy for this staple. For a point of information, I would like to know the weight of this middle roll used in the frame mentioned. I have used rolls weighing 1,000 grains on an average, making yarns using 1⅜-inch staple, without any cockled yarn.

"From the viewpoint of other readers, would it be cheaper to buy the right weight of roll than to put extra weight on the front top roll, which would require more power per frame?

"Following are some of the causes of cockled yarn which I have experienced:

"Dry top rolls; uneven staple; mixing cottons too widely varying in length of staple; close settings, extremes when it is damp; settings too close for practical conditions; double roving will give more trouble because one end comes in heavier in places; clogged rolls; stirrups rubbing against steel rolls; worn saddles; slack and slipping belts; rolls creased from hard ends; hard rolls and poor rolls; variation in thickness of skins; and roll traverse motion not properly adjusted."

We wish to express our appreciation to our New England reader for this interest, and for giving us the most complete list of causes of cockled yarn we have ever seen. Evidently a good many years of study, work and observation have gone into the compilation of that list.

It so happens that the mill which we wrote about as finding it necessary to increase the weight on the top front roll to eliminate the semi-cockles is using a middle top roll weighing 900 grains. Other frames in the mill, of different make, are using the same rolls without any semi-cockling trouble, and the only variable which could be found in these conditions was the amount of weight on the front top roll. When this was remedied the semi-cockling ceased. So that our good friend should add to his causes of cockled yarn, or at least semi-cockled yarn when long staple cotton is being run, this one: Insufficient weight on the top front roll to insure good gripping and drafting of the fibres.

## Speeding Up by Reducing Speed

There is an obvious moral to this story. In a certain mill it was necessary to reduce the speed of the pickers 25 per cent to make more even and cleaner laps. The carder complained the pickers could not keep up at the reduced speed, and in spite of the superintendent "bearing down" on him to keep enough laps for the cards it did look as if it couldn't be done. Then the superintendent devised a clever lap-counting mechanism as follows: A single worm was fastened on the shaft driving the knockoff or lap measuring gear. An old crown gear was made into a worm gear of 140 teeth and rigged up on a stud to mesh with the worm. With this lay-out every time a lap was run the worm gear had moved 1½ teeth, and divisions of ten laps were laid off on the worm gear. Nothing was said to the picker hands when this device was put on but the production per picker miraculously jumped from 34 laps per machine per eight hour day to 48 laps, and the delighted superintendent expects to be able to reduce the speed of the machines still further.

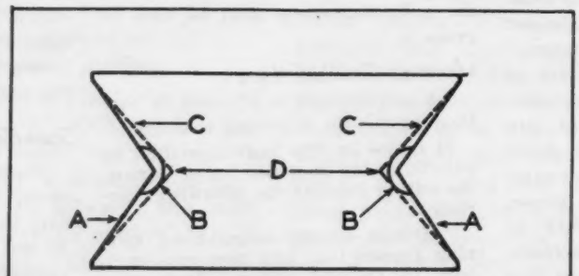
# Turning Down Worn Spinning Whirls

By E. M. Holt, Manager
Erwin Cotton Mill No. 3,
Cooleemee, North Carolina

THE changes in manufacturing methods of the last few years, the advent of higher production and large spinning packages, have disclosed defects that have heretofore gone unnoticed. One defect that in the past year or so has claimed the attention of the spinner and management has been worn spinning whirls.

After many years of operation, the whirl on a band-driven spindle becomes worn, the V is rounded out and the band does not grip properly. The result is uneven spindle speed due to slippage and different spindle speeds from one spindle to another because of uneven wear. Both result in unevenly twisted yarn, and therefore uneven yarn.

To have whirls turned down or re-grooved is both practical and economical. Several things, however, have to be taken into consideration. If there is not as much as 3/32-inch stock left between the bottom of the band track and the inside of the whirl, it should not be repaired. The turning down or re-grooving must be done in such a manner as to hold the same dimensions from the bottom of the V to the spindle point and from the bottom of the V to the top of the blade. In turning down a tolerance of not over 5/1000-inch variation should be maintained. Most repair shops will guarantee to stay within these dimensions. Lastly, the whirl should not be so badly worn that in turning down, all wear cannot be cleaned up and the whirl brought back to a perfect V without cutting the outside surface of the whirl to a sharp edge. Both the wear and the part to be turned are shown in the accompanying drawing.




A-ORIGINAL LINE OF WHIRL
B-WORN BAND TRACK
C-LINE OF WHIRL AFTER GRINDING
D-NEW DIAMETER OF WHIRL

FIG. 1

### Method of Selection and Turning

A worn whirl which was originally 13/16-inch can successfully be turned to ¾-inch. To select whirls for turning down, a pair of outside calipers should be set to ¾-inch, and any whirl that does not slip through the calipers can be repaired, finishing with ¾-inch whirl. Most spindles that have been run long enough to wear a whirl 1/16-inch will also have worn points and the spindles should be re-pointed at the same time the whirls are turned. While the writer has never seen either of these operations, he has been told that this work is done on a machine similar to a lathe. The spindle is chucked in the lathe. A cutting tool is ground to the shape of the V wanted and is secured in the end of a lever which is in turn mounted on an adjustable pivot. After the proper setting is made, to clean up wear and to turn the whirl to new diameter, with spindle revolving, the operator presses down on the end of the lever causing the cutting blade to cut through the whirl from bottom to top. When this operation is finished, the spindles are taken to another machine where they are re-pointed in a similar manner. They are then checked for accuracy and straightened if necessary. The cost to the mill for all three of these operations will of course vary, depending on the type of spindle, amount of wear, etc. This work is done by the several machinery shops and by local repair shops specializing in services of this kind. A representative price might be put at $8.00 per thousand for the three operations.

### Method of Checking by Mill After Turning

The method of checking when spindles are returned to the mill is with two pairs of outside calipers. The prongs are ground wedge-shaped and one pair is set to 3/1000-inch over ¾-inch and one pair is set to 3/1000-inch under ¾-inch. Then in checking, if the larger pair of calipers will not go over the whirl, it is rejected as being too big, and if the smaller calipers slip over too easily, it is rejected as being too small. The measurement of the distance from whirl to top of blade and from whirl to point is taken to be sure that in turning down the relationship of the whirl to these two points has been maintained. Of course a small tolerance is allowed here also. Turned - down spindles should be put back on, a frame at a time, as the turning down will of course change the ratio of whirl to cylinder and the twist gear must be changed to compensate for it.

If the turning is done properly and the mill checks carefully, it will be found that turning down whirls will give satisfactory results. The improvement in the quality of yarn by turning down whirls is thought by many mill men to show as great a return on the money expended as any repair that can be made on an old frame.

The advantages gained in more uniform spindle speed and more even twist will be obvious to practical mill men, who we hope, will find this discussion of value.

# SOMETHING ABOUT FASTNESS

## By Harold Schroeder

THE author returns to our columns with this entertainingly written observation on some of the problems of fastness. He endeavors to show clearly that things are not always what they appear to be from the mere designation of a color as developed, naphthol, etc., at least insofar as the fastness of an individual color in any of these groups is concerned . . . . . .

EVERY once in a while some particular shade will give its dyer what could be called a thorough going-over; that is to say, it reduces him from one who might be said to have a reasonable background of solid experience to about the general level of a very young baby playing quite unsuccessfully with blocks on the dining room floor. On any morning, while the sun is shining brightly in the heavens and the merry voices of children at play indicate that apparently all is right in the best of all possible worlds, there is woe in the heart of some dyer who started out to work with confidence in his make-up and found himself baffled and defeated for that day, by some simple looking and outwardly appearing easily-to-be-obtained shade.

Sometimes it is a dyeing which started out quite sedately on the proper tone, but needed just a little more depth to bring joy to the customer; however, on running it some more the cotton or the silk or the rayon discovers in the dyebath an apparently inexhaustible supply of color foreign to the shade, naturally absorbs it with great eagerness, and the next sample adds one more grey hair, or, more usually, causes one more hair to fall out. How often it is that the particular dye which is throwing the lot off shade happens to be the fastest one in the combination.

Maybe there is no difficulty with the shade; that is to say, the general average of the shade, but the lot refuses to be the same shade all over, which sometimes happens. Rude and vulgar people, unmindful of the delicate sensibilities of the dyer, may call such a dyeing streaky, may even wonder right out loud how it is that the person who produced that particular lot has the nerve to call himself a dyer. There have been cases of dyers who had wrestled all day with a lot that refused to come level and then, on going home and endeavoring to read the evening paper quietly, have been interrupted to look at dresses dyed at home in beautiful shades with Rit. A dyer's wife may sympathize outwardly with Husband's troubles, but privately she holds the idea that if her husband would use Rit or Tintex in his daily work it would not be necessary for her to keep the children so quiet at night.

However, while off-shades and streaks are disturbing to a well ordered dyehouse, neither of these is so annoying as a lot which is a good match and sufficiently level, but which is rejected on the grounds of fastness.

Fastness is a quality in dyed goods which a dyer may well be proud of, since it does not come about by any accident but finally is produced through a sequence of manufacturing operations frequently involving other departments, the success of which is dependent on the dyer's skill and care and thought. What the dyer adds cannot be said to be the most important, since today no one operation is of greater or lesser importance, but the dyer's contribution in the way of fastness, assuming the correct shade and adequate evenness, comes about as the result of study and technical skill.

We often hear it said that in past years dyed goods had better fastness than today. Most every dyer at some time or another has heard the story of Grandfather's suit which after fifty years was still a deep, beautiful black. The historical fastness of this suit is then compared to the lack of fastness in Grandchild's socks; Great-Aunt Minnie tremulously tells the tale of her Paisley shawl which for untold years has lain safely at the bottom of her hope chest, and speaks feelingly of the poor quality of modern feminine textiles.

There are some grounds for considering that fastness in early years was also of great importance. When the Blue Boar tribe of our ancestors, for reasons which seemed good to them at the time, decided to go and beat up the neighboring tribe of the Red Mice, it was distinctly necessary that the various colors which denoted that they were Blue Boars could withstand the wear and tear of crawling on their tummies a mile or so through the local underbrush. A warrior who started out looking like a genuine Blue Boar naturally expected that his medicine men could guarantee to deliver him right side up at the place of battle, still proudly resembling an animated awning, and I have no doubt at all that occasionally when the Blue Boars lost out in their battles, some if not all of the blame was placed on the poor quality of the facial decorations.

Later, when aniline dyes were first introduced, brilliance and general availability of bright colors were of greater importance than fastness, but now-a-days there is definitely a swing toward the earlier demands for fastness.

Modern dyestuffs can supply practically any shade in any degree of fastness desired, but every dyer will understand that for any degree of fastness there is also a definite cost level. Consequently, when a definite limit is placed on the cost for a particular shade, this is the same thing as preventing the dyer from giving the ultimate in fastness. It then becomes a problem for the dyer to so spend the allotted money that the maximum in fastness results is obtained.

There has grown up in figuring costs the practice of classing all direct dyed shades at one level, all sulphur dyed lots at a level a little more expensive, developed colors still a little higher, and still higher for naphthol and vat colors; the final result looks like a set of steps.

I am not questioning the business soundness of this quite general practice, but any dyer can talk at great length on the many inconsistencies which result and which affect him quite materially. For example, most developed colors specified are deep shades, and any dyer who has to produce a good deep developed orange has to put out almost twice as much money as he would for a developed red and for a hundred pounds of goods, the difference in cost between the developed orange and the developed red would not leave much out of a five-dollar bill.

Developed greens are also costly to produce, and I feel that many dyers can show examples of developed green shades which would certainly not cost more if dyed using vat colors, but might even cost a little less.

It is certainly true that for general benefit, each and every shade should be considered on its own merits and by itself. Vat shades cannot be just lumped all together. The difference in cost between a vat sky blue and a deep vat brown can amount, for a hundred pounds of goods, to much more than twenty dollars.

Nor are all vat colors of equal fastness; as every dyer knows, the fastness of any dye depends to quite an extent on the depth of the dyeing. We can thus arrive at a situation where a very light shade dyed with a direct color is almost as fast as the same very light shade dyed with a certain vat color, although this same vat color in a deeper shade may have excellent fastness.

It accordingly follows that a dyer when dyeing any shade has to take into account many factors, some of which pull one way and some another. Naturally, if the shade is a very light one, the matter of level dyeing will, to the dyer, become the most important factor, and he is positively required by practical considerations to choose a dyestuff on which he can depend for level dyeing even if, as sometimes happens, that particular dyestuff is of lesser fastness.

Dyestuff makers have gone a long way in producing satisfactory dyestuffs and may be expected to go further, but in certain cases the dyes which happen to be the fastest also happen to be impossible to dye level in light shades. In such cases the dyer has to compromise and takes care that the goods are in the very best possible condition before dyeing.

Naturally, as the fastness of most dyes depends on the depth of shade, it follows in the case of light shades that the textile itself, or what is used in finishing it, may exert a great effect on the fastness of the dye. Even so, it may be necessary to produce a salable finish using materials which do not assist the fastness of the dyestuff.

Dyestuff makers have never made any secret of their belief that the dyer is an important factor in attaining the fastness latent in their dyestuffs. This is particularly the case in developed colors. I doubt if there are many deep shades of developed colors which are sufficiently fast without an excessive soaping, and the time of soaping a developed color sometimes takes up more than the actual dyeing and developing operations. I have no doubt that some laboratory technician will rise up and prove to me that if properly developed in an ice bath any developed color will stand boiling soap. I will concede such might be the case, but dyers have to struggle with iron machines difficult to cool off, and with water supplies which are warm, and under such conditions laboratory fastness may be just a beautiful dream.

It is in the dyeing of vat and naphthol colors that the dyer comes particularly into his own in the attaining of fastness. Most every vat color has some little trick of its own which has to be studied by the dyer and allowed for in the dyeing formula, so that crocking and looseness to rubbing may be avoided. There are probably a few vat colors which cannot be produced fast in the dyebath but which have to be worked on in a succession of boiling soap baths until the dyer has produced the necessary fastness. This is likely to take time and cost money.

Naphthol colors represent possibly a greater variety in fastness than any other group of colors, and the dyer has to be especially careful in using a combination which has the necessary latent fastness built into it; that is to say, the necessary fastness to light and bleaching, either chlorine or peroxide. After choosing such a combination, it is still very much of a dyer's problem to put into that naphthol dyeing as much fastness as the particular combination permits, and I doubt if there is any other type of color so dependent on the machinery used and the method of dyeing and subsequent soaping. The fastness of naphthol dyeings has been improved in recent years more than any other class of color, and some naphthol shades are quite definitely faster than some vat colors. Let us hope that the makers of naphthols will follow the example of the makers of vat dyestuffs and divide the naphthols into those which can be made fast if the dyer does his work correctly, and assign another name to those naphthols which cannot be given adequate fastness by any skill of the dyer and which are really only improved developed colors.

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EVER THOUGHT OF IT: Anything *learned* can never be *un-learned.* That brain of yours is a wonderful thing if you will just give it a chance to show its stuff.

We *learn more from things we can't do than from things we can do.* That is, if we will go down after the thing we can't do and try to *master* it. We learn more things about pushing for production when our production is down. We learn more abont lowering our cost when it is too high. We learn more about fixing looms or fixing any other machine when the machine is out of fix and won't run.

Moral: When your room or your mill is running along smoothly, be careful that you do not get into a rut. That is just the way some fellows get their names in the paper—"resigned."—OLD-TIMER.

# CURRENT TEXTILE TOPICS. . . .

## Talk of the Month

THROUGH the summer of perplexity it was demonstrated for the cotton industry and other branches of the business world that natural laws continue to play a dominant part in economics. The best phases of the NRA, which it may be hoped will still be enforced after the emergency period, are only a recognition of the need for changes to incorporate sound new principles made clearly essential by the evolution of industry. All the forces of the Administration as exercised, however, have not been equal to the task of making business spread over longer seasons, to obviate labor controversies, or to create satisfactory relations between buyer and seller in the matter of prices—to mention some of the leading problems of the Government-business partnership.

**Economics Not Made by Man Continues to Hold its Sway**

Up to mid-August the whole textile industry was under the spell of an exhausting drag in business. Buyers were conservative in the extreme, with drought aggravating uncertainty and the business world waiting all the time for something to happen, particularly a constructive move from Washington. It fell to the lot of the cotton industry to find the first stimulating force in the textile business and that was a natural force rather than any government move. The report of August 8 forecasting a cotton crop of the smallest size of any save one in over a generation gave the first real fillip to buying for a long time in the goods markets.

In the first year of the NRA for the cotton industry, there was some hint that regulated production would provide more even spread in employment of men and machinery because the restriction of output would require better distribution of purchasing to cover normal requirements. It may be hazarded that this ideal is yet to be anticipated, but a change from hand-to-mouth buying will never rule except under the force of the buyers' necessity. That is, the buyer will only buy ahead when he thinks it necessary. It has been necessary during the past year only in spurts and the circumstance may be attributed to the slow progress that has been made in the adjustment of various branches of business toward normal.

While there has been much disappointment over monetary and other disturbing activities of the Government, the current fall season is conspicuously dependent upon the Administration's program for its results. The government AAA and relief programs are an important element in the general purchasing of textiles and other products. This must be paid for out of the general public funds in the final settlement, but at least it helps to provide the wherewithal by affording funds to large groups. One particularly important project on which the government has embarked, moreover,—the national housing plan—is doubly hopeful. The building industry has been the outstanding laggard in recovery. The housing plan may conduce to relief from economic maladjustments and it is economically sound because it involves the enlistment of private funds and it aims to fill an obvious need.

One of the problems which is a major obstacle to the cotton industry brought forcibly to the front in the summer is the failure of distributors even to cover their needs, let alone get ahead of requirements. In a time of hesitation buyers become unduly cautious and part of the low operation of mills may be attributed to this factor. It was reported that consumers actually were hampered in their purchases at mid-summer in some cases because the finished goods were not available in the stores. A rather hysterical tendency to rush the consumer season and to get rid of goods early is bad for producers and for all concerned. When distributors of summer goods are running short of lines the first part of August, there is something wrong with the system. It is time for producers to get together with distributors, for the common benefit of all. A more orderly progression of business is the thing greatly to be desired.

At the time of the U. T. W. threat to strike, in the middle of August, conditions were beginning to shape up in a propitious way for the cotton industry, with much confidence toward the fall business. Significant of the unsoundness of union claims was the coincidental report from George A. Sloan showing what the cotton industry has done for the workers in accordance with government wishes under the NRA, to the neglect of stockholders. It was evident from the start of strike deliberations, that the union was taking an unpopular position and domination of the workers appeared to be the chief objective. "That under existing conditions there is no factual or statistical basis for any general increase in cotton textile code wage rates" was the finding already made by the Research & Planning Division of the NRA, in response to previous agitation of the U. T. W. for a 30-hour week and other benefits. It looks, however, as though the labor matter will continue to be a periodical matter of contention, unless the union finds itself the wrong group in a government which is working for the interests of labor.

Kindred to this matter is the problem of production, with its curtailment and regular code rate. The August talk of continued curtailment brought a quick reaction against the idea because the industry was facing the period of greatest business. The summer was in sharp contrast with last, but 1933 was at record levels. Granting that the fall will bring a more orderly market than that last year, it may be pointed out that the low consumption of cotton recently was a good starting point at least by comparison with the

depression level. The cotton industry, incidentally, keeps its dominant place in the whole textile field. This is indicated indirectly by the active preparations of rayon, wool and silk manufacturers toward widespread promotion of their fabrics.

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### New England Mill Situation

COTTON mills of New England approached September with a continued dearth of business, although during the preceding month there was some talk of an improving situation in the fine-goods center of New Bedford. From Fall River at mid-August it was reported that the cloth market still was stagnant in the face of a material pick-up of other textile centers of the country. Quotations had been raised fractionally, but remained nominal for want of sales and were still said to be under costs of production. In view of such conditions there was a distinctly apathetic feeling toward the union and its threat of a strike.

In the August monthly review of the Federal Reserve Bank of Boston, it was stated that the daily average consumption of raw cotton by New England mills amounted to 2,551 bales, in June, as compared with 3,696 in May and 4,690 in June, 1933. For the first six months of 1934, however, the average was 3,704 bales as compared with 3,329 the corresponding period of last year. The summer restriction was part of the adjustment to a low goods buying rate and, though even this curtailment was not sufficient to keep the market stabilized above costs, it was a check to demoralization and a help toward quicker advance on an improved demand.

Mid-summer found the New Bedford mills actively introducing fancy lines, in response to a growing demand for colored-yarn fabrics. This class of work is traditionally a high point for manufacturers of New Bedford and they continue to make ready response to any demands for specialty fabrics of high quality. The increasing cost of raw cotton, however, and the addition of the processing tax have been giving much concern to the mills of New England as elsewhere. The processor tax is deplored as aggravating costs to the point of reducing consumption of cotton. It was condemned as discriminatory, in making one group pay a tax in favor of another special group, but mills find a more serious phase in restriction of consumer buying and of manufacturing profits, as well as of the outlet for the cotton producer whom the tax aims to benefit.

Strong and adverse public sentiment was aroused in New England by the threat of a mill strike, because of the realization that labor has gained enormously under the code, while through the recent long period of stagnating mill business has been carried on without profit or actually at a loss; also because code conditions have made necessary prices that are all the consumer can bear. It was felt here that workers in a substantial percentage of cases would be moved against their best judgment, if they did strike, because they realized as well as outsiders what had already been gained under the NRA and that it is necessary to give mills a chance to sell their output if steady work is to be had. The U. T. W., moreover, has had a very irregular hold upon textile workers in New England.

Something of the struggle among mills to do business for the last decade in New England is revealed in the announcement by the Pacific Mills of its first dividend in nine years. The payment of 50 cents a share on September 1 marked the first dividend since December 1, 1925, when 75 cents was paid. This 1934 dividend, naturally, was hailed as a welcome change and a possible augury for other mills. Another encouraging sign was the report of the Pepperell Manufacturing Company of the best profits for the year ended June 30 of any twelve months since 1920, on an unprecedented volume of sales. It will, however, take a general improvement in the national economic picture this fall to produce results for the cotton industry such as those the past year.

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## COMMENT ON THE COTTON MARKET

**New Orleans, August 16, 1934.**

THERE was improvement in the growing cotton crop to the east of the Mississippi river during July, every important state in that area, as of August 1, showing a condition as good or better than the ten-year average for that date, but since sufficient rain failed to visit the major portion of the western half of the belt during July, the growing crop, to the west of the Mississippi suffered serious deterioration.

As anticipated long ago the world's carry-over of American lint cotton this year was comparatively very large, and the world's carry-over of foreign growths was larger than last year, as noted by the following comparison:

| August 1st.— Bales— | This year | Last year |
|---|---|---|
| American cotton (Hester) | 10,598,000 | 11,339,000 |
| Foreign cotton (N. Y. Cotton Exchange Svc.) | 5,054,000 | 4,493,000 |
| All kinds | 15,652,000 | 15,832,000 |

This feature of the general situation, however, apparently received but secondary consideration, more attention having been directed to the progress of the growing American crop. The result of this development, the unfavorable progress of the crop in the western and part of the central belt, is reflected in a further advance in the price of the staple, values having recently reached new "highs" for thus far this season and for some years past. Of late, however, there was some recession in the market, due to the want of better support, speculation not being so broad, and trade buying not so urgent, due to the world-wide depression and the higher prices prevailing, also because of anticipated much larger foreign crops, and smaller consumption of American this season.

**CENSUS REPORT FOR JULY**

| United States— Bales— Season— | 1933-34 | 1932-33 |
|---|---|---|
| Consumption of lint in Cotton Growing States, July | 289,557 | 483,846 |
| In New England States, July | 60,161 | 98,431 |
| In All Other States, July | 9,654 | 18,364 |
| In United States, July | 359,372 | 600,641 |
| Consumption of lint in Cotton Growing States (12 months) | 4,550,848 | 5,086,573 |
| In New England States, 12 months | 984,977 | 884,044 |
| In All Other States, 12 months | 164,733 | 166,778 |
| In United States, 12 months | 5,700,558 | 6,137,395 |
| Mill stocks, July 31st | 1,230,369 | 1,348,236 |
| Stocks in public storage and warehouses, July 31st | 5,565,140 | 5,736,398 |
| Stocks in mills, public storage, and warehouses, July 31st | 6,795,509 | 7,084,634 |
| Stocks in mills, public storage and warehouses, June 30th | 7,312,195 | 7,707,940 |
| Active spindles during July | 24,417,682 | 26,085,300 |
| Active spindles during June | 24,690,312 | 25,549,974 |

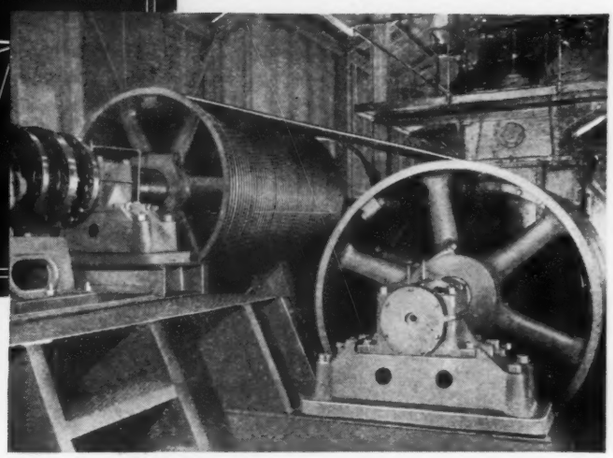
**TOTAL AVERAGE RAINFALL IN TEXAS, IN INCHES**

| Year— | 1934 | 1933 | 1932 | 1931 | Normal |
|---|---|---|---|---|---|
| July | 1.99 | 4.21 | 2.42 | 3.08 | 2.60 |
| Nov. 1 to July 31 | 19.78 | 20.57 | 26.38 | 22.77 | 22.87 |
| August | (!) | 2.95 | 3.39 | 2.04 | 2.44 |

# WORLD'S LARGEST MULTI-V-DRIVE

G.T.M.–SPECIFIED
GOODYEAR EMERALD CORD V BELT
INSTALLED BY WORTHINGTON PUMP AND MACHINERY CORPORATION
HARRISON, NEW JERSEY
On 1000 H.P. Diesel-driven dredge pump for McWilliams Dredging Company
Number of belts: 54
ELASTIC ENVELOPE TAKES THE WEAR
HIGH TENSION SECTION
NEUTRAL SECTION
HIGH COMPRESSION SECTION

## 54 Goodyear Emerald Cord V Belts speed giant dredge pump



## Matched construction insures close to 100% power-efficiency

THE practicability of using high-efficiency multiple V drives on heavy duty machinery is demonstrated by the 54-belt giant pictured here, said to be the largest in the world.

It is part of a 1000 H.P. Diesel-driven pump installation, recently made by the Worthington Pump and Machinery Corporation on a huge dredge operated by the McWilliams Dredging Company of Chicago.

Because efficiency, dependability and long life command a special premium in dredge service, the Worthington engineers took no chances. They specified 54 Goodyear Emerald Cord V Belts, 1½" wide, 420" long, as recommended by the G.T.M.—Goodyear Technical Man—for these reasons:

Emerald Cord V Belts are precision built in matched sets, uniform in length and accurate in cross-section —*insuring practically slipless grip!*

The load is carried entirely by a core of high-tensile low-stretch cords, deeply embedded in high quality rubber that neutralizes the forces of tension and compression in flexing over pulleys — *insuring greater strength, long flexing life and high fatigue resistance.*

As a result of this greater flexibility and grip, Emerald Cord V Belts transmit power with an efficiency close to 100%, and permit a uniformity of operation impossible with other belts.

**SPECIFIED BY GTM**

On many drives where even, maximum power is requisite—on textile machinery; ball, rod and tube mills; clay, heavy saw mill and paper working machinery; crushers, pumps and compressors, the G.T.M. recommends Emerald Cord V Belts and individually specifies them to your equipment.

Why not talk it over with this practical expert. Perhaps he could save you money, too. To get in touch with him, address Goodyear, Akron, Ohio, or Los Angeles, California—or the nearest Goodyear Mechanical Rubber Goods Distributor.

**BELTS • MOLDED GOODS**
**HOSE • PACKING**
MADE BY THE MAKERS OF GOODYEAR TIRES

THE GREATEST NAME IN RUBBER

NRA CODE

GOODYEAR

This year, thus far, is much like the memorable year of 1921, during the latter part of which the previous depression was ending, excepting that while the boll weevil were more destructive then, the drouth this year is worse than it was that summer. The following comparatives may be found of interest:

| Year— | 1934 | 1921 | |
|---|---|---|---|
| Acreage for harvest, estimated | 27,371,000 | 28,678,000 | |
| Of which in Texas | 10,576,000 | 11,193,000 | |
| Condition of crop, August 1st | 60.4 | 59.7 | |
| Indicated average yield per acre, lbs. | 160.9 | 132.5 | (final) |
| Crop, government est., as of Aug. 1st | 9,195,000 | 7,978,000 | (final) |
| Of which for Texas | 2,382,000 | 2,130,000 | (final) |

The ills of the Texas crop, as of August 1, when the condition was only 48 vs. 71 last year and the ten year average of 66, may be attributed to high temperatures and the lack of rainfall during May, June and July in that important state, which, for the three months totaled only 4.67 inches, against 8.92 for the corresponding period last season and normal of 9.61. These conditions apply to Oklahoma, Arkansas and northwest Louisiana also.

Meanwhile, or since August 1, there was a continuance of the drouth in the major portions of Texas, Oklahoma and Arkansas, which has probably served to make the crop outlook in those states less promising today than on August 1.

Substance of Washington's summary for week ended August 14, "In general, progress of the crop was favorable east of the Mississippi Valley, and decidedly unfavorable in the western portion of the belt where heat and drouth persist. In Texas the condition of cotton is generally poor to only fair, with much premature opening; consequently picking is rapidly advancing to central districts. In Oklahoma plants are shedding heavily, with much wilting, top-blooming and general deterioration. In the central states of the belt deterioration continues in the drier sections, especially on the high lands of Arkansas and portions of Louisiana. In the eastern states, progress was satisfactory, though in some sections cloudy, showery weather favored weevil activity."

This year, however, prospects are for a further reduction in the world's consumption of American, but a further increase in consumption of foreign growths; a large increase in foreign crops, but a big decrease in the American crop. The point is, therefore, that even if this season's world's consumption of American lint is reduced to 12,500,000 bales versus 13,537,000 last season, and if this year's American crop is only 9,000,000 bales, and it may be smaller, there would be a further reduction of about 3,500,000 bales in the world's carry-over of American lint at the close of July 1935, which would leave a world's surplus of American of only about 7,000,000 bales one year hence versus 10,598,000 this year, 11,339,000 last year and 12,911,000 in 1932.

This, the elimination of the burdensome surplus, has been the object of the government, as regards cotton and grain, in the interest of higher prices and general business recovery. In this respect, Providence seems to have cooperated to a large extent. Farmers have been compensated for reducing the acreage in the cotton and grain regions, not only by the government but by the higher prices as well, and those who have suffered from the drouth are receiving relief from the government. The higher prices have naturally added to the value of the large surpluses, and have given increased value to the larger cotton crops in foreign countries. It is evident, therefore, that much of the world will share in the better prices for cotton and grain, and for gold and silver, which makes for increasing buying power of the masses, which should result in much improvement in international trade.

Because of the much higher prices for farm products, especially cotton and grain, the housing program now getting under way, and the favorable progress of the NRA, better times appear to be ahead. It is possible, if not probable, that history may repeat itself. The last half of 1921 was the ending of the 1920-21 depression, prosperity having set in in 1922 and continued until well into 1929. There is every reason to believe that we are on the eve of another turn for the better in national and international trade, and it is to be hoped that the year 1935 will usher in another prosperous year, as was 1922, and that prosperity will last for years to come, as it did a decade ago. In this respect there is room for plenty improvement, and there is consolation in knowing that signs for such a favorable change are not lacking, and are apt to be more in evidence the coming autumn.

## What the Southern Mills Are Doing

The Texas Textile Mills, Dallas, Texas, have purchased a new Super-sanforizing range. A number of these machines are already in operation at other plants, namely: The Hampton Company of Easthampton, Mass., and Lanett Bleachery and Dye Works, West Point, Ga. A fourth machine is under construction for Great Falls Bleachery & Dye Works, Somersworth, N. H. This type of high production sanforizing equipment, recently introduced to the trade, is engineered and built by The Textile-Finishing Machinery Co., of Providence, R. I.

Washington Mills Co., Fries, Va., are installing a new heating system and other equipment.

Dunean Mills, Greenville, S. C., have installed a Proctor & Schwartz continuous drying machine in connection with their rayon fabrics.

Judson Mills, Greenville, S. C., have recently re-painted approximately 700 cottages, inside and outside.

Ware Shoals (S. C.) Mfg. Co. have let contract for 250 additional houses in the mill village.

Winnsboro Mills have installed Barber-Colman automatic spoolers and high-speed warpers in their plants at Hogansville, Ga., and Winnsboro, S. C.

Faytex Mills, Inc., Fayetteville, N. C., are planning expansion and improvements, which will include installation of new spinning equipment.

Cloverdale Mills, Montgomery, Ala., which have been idle since 1929, are being re-opened under lease by Hesslein & Co., of New York City, selling agents, who operate the Bradford Mills at Montgomery and Prattville. H. B. Dowell, manager of these plants, is also in charge at Cloverdale.

Proximity Mfg. Co., Greensboro, N. C., has awarded contract to Bryant Electric Co., High Point, N. C., for electrical work for the new unit being erected at the company's White Oak plant. J. E. Sirrine & Co., Greenville, S. C., are the engineers on this unit which will increase the manufacturing capacity of the plant considerably. Some new machinery is being installed, while some is being transferred from other units of the company to improve the manufacturing lay-out.

D. B. Johnson, of Lincolnton, N. C., and R. J. Woods, of Kings Mountain, N. C., have purchased the James Cotton Mills, Maiden, N. C., which has been idle for four years, and will operate it as the Grace Cotton Mills. The mill will make 24s to 30s single and ply yarns.

Robert L. James, of Marion, N. C., has purchased the machinery of the Monica Hosiery Mills, recently organized at Old Fort, N. C., and will move it to Marion, where he will operate as R. L. James & Co. Men's hosiery will be produced.

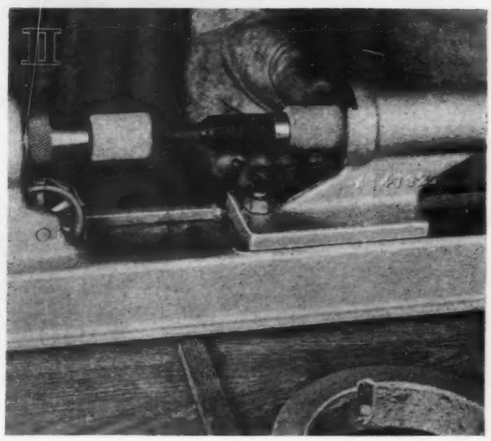
Commonwealth Hosiery Mills, of High Point, N. C., have opened a branch at Randleman, N. C., equipped with 100 machines for manufacturing ladies' seamless hosiery.

Shelby Hosiery Mill, Inc., Shelby, N. C., has been organized with a capital of $25,000 by John W. Cash of Shelby, Fred H. Hahn, V. C. Bridges and Marvin Bridges, of Hickory, N. C.

C. H. Bacon Co., Loudon, Tenn., have purchased 100 new infants' hose machines, and will also install additional full-fashioned equipment.

# NOW

## ... cover rolls in 2 simple operations!

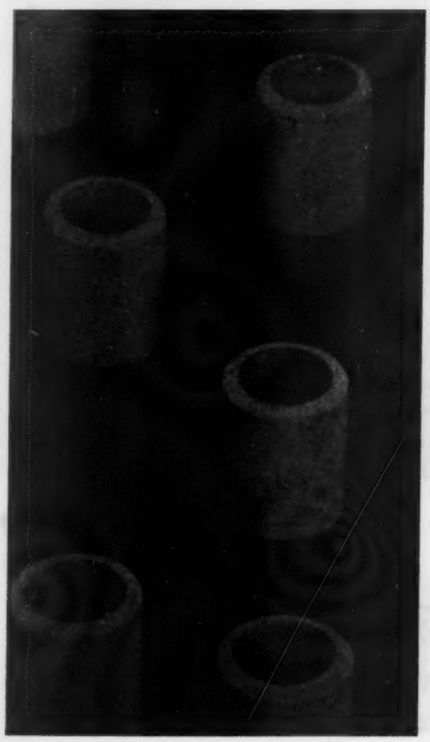



**1. DIP THE ROLL IN WATER**

**2. PLACE COT ON ROLL . . . AND**

**YOU'RE DONE**

*Water Soluble, Tight-holding Glue Is Applied at the Armstrong Factory!*



ARMSTRONG'S Seamless Cork Cots can now be assembled on rolls much more quickly. With glue already applied by Armstrong, five times as many rolls can be covered in an hour. This saving in labor plus your saving on glue cost reduces the cost of the covered roll by 10%. And you get a stronger bond between cot and roll, a bond that will not work loose.

Armstrong's improved Cots are the same thickness and quality, give the same efficiency and economy in operation as before. And they are the *same price*. Send today for full information concerning the new ready-glued cots. Armstrong Cork & Insulation Company, Textile Division, 923 Arch Street, Lancaster, Pa.

# *Armstrong's*

## *Seamless Cork Cots*

***For Spinning and Card Room Rolls***

# WE DIDN'T STOP *with*

WE
It's now FAR WHITER!
—Still greater in light-reflecting power.
It remains WHITE EVEN LONGER!
—Danger of "yellowing" reduced still more.
It SPREADS STILL FARTHER!
—Even less paint for the job . . . less time and labor to apply it.
It "HIDES" EVEN BETTER!
—Often one coat covers where two of ordinary paints are necessary.
Barreled Sunlight
REG. U.S. PAT. OFF.

# *The improved*

# one improvement . .

**. . . AND WE GOT ALL FIVE!**
**It was inevitable that 30 years' experience in making America's leading quality white paint should enable us to meet these vigorous, self-imposed standards.**

YES . . . impossible as it seems . . . *each* of five famous Barreled Sunlight qualities has actually been stepped up!

Barreled Sunlight, already so white . . . so powerful in its light-reflecting properties . . . has been made even *whiter*. And of still greater importance —it has been made even more *lastingly white* . . . it remains white, resists "yellowing" even longer than ever before! (See *Surety* below.)

*Spreading Power* and *Hiding Power*, *both* actually increased at the same time. And *Ease of Flow*, that quality so important to speedy, more economical application, has also been improved!

We, alone, through our thirty years of highly specialized experience in the manufacture of white paint—Barreled Sunlight —*exclusively*, have been able to improve each of five important white paint qualities . . . amazingly in *one* paint!

And now, the Improved Barreled Sunlight is today's *only* white paint with *every* quality that makes for highest possible light reflection, lowest conceivable cost of application and maintenance upon the ceilings and walls of *your* plant.

Write today for further information . . . ask for a practical demonstration in your own plant. Address U. S. Gutta Percha Paint Company, 8-I Dudley Street, Providence, R. I. Branches or distributors in all principal cities. (For Pacific Coast, W. P. Fuller & Co.)

**YOUR SURETY**

**We maintain that Interior Barreled Sunlight, the "Rice Process" White, will remain white longer than any oil-gloss paint or enamel, domestic or foreign, applied under the same normal service conditions and according to our specifications. If it does not do so, we will give, free, enough Barreled Sunlight to repaint the job.**

# BARRELED SUNLIGHT

REG. U. S. PAT. OFF.

# New Textile Equipment and Publications . . .

### The Amco Lap Weight Indicator

American Moistening Company, 260 West Exchange St., Providence, R. I., have announced the perfection of the Amco lap weight indicator, for regulating the weight of picker laps to provide the same amount of cotton in each lap regardless of a varying moisture content. The importance of controlling the uniformity of the lap weight, regardless of varying moisture in the lap, is well recognized. The company states that "Cotton manufacturers agree that the theoretically

New indicator

normal amount of moisture in a lap at the end of the picker process is 6½ per cent of the bone dry weight; if 6½ per cent were also the actual moisture content of picker laps at all times, there would be no weight problem. However, cotton is highly absorbent and because of this fact, its moisture content changes with the weather. Furthermore, its tendency in this direction is greatly enhanced in the picker room, due to the extremely open condition of the cotton at that time, and because of the large volume of forced air circulation to which it is subjected."

The new instrument approaches the problem from the point of making proper allowance for the variable moisture content. Factory calibrated to 6½ per cent regain, its operation is explained as follows:

"Assume the lap weight standard to be 40 pounds with 6½ per cent regain. The operative turns a handle at the bottom of the instrument until a chart segment appears having the figure 40 in the middle. The indicator may be to the right or to the left of this middle figure, according to the relative humidity of the day. If it is an extra dry day, the indicator may come within the area reading 39 pounds. In this case the operative knows that the lap on the scales at that time should weigh 39 pounds. On an extra moist day the indicator may point to the 41 pound area, in which case the operative knows that the lap should weigh 41 pounds, or at least that it should vary from which weight no more than the allowance permitted."

The instrument has an actuating element with hygroscopic qualities closely paralleling those of cotton, it is stated, and one which is not affected by temperature changes. It is totally enclosed and factory sealed to prevent tampering.

* * *

### New Bearing Catalog

Shafer Bearing Corporation, 6501 W. Grand Avenue, Chicago, Ill., have recently issued a new and amplified edition of their Catalog No. 12, covering Shafer roller bearings and self-aligning units. The book is replete with illustrations and descriptions of the various types of bearings, pillow blocks, self-aligning units, etc., manufactured by the company—and contains much practical engineering information in connection with the application of these products to industrial and machine uses.

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### Dayton V-Flat Drives

The Dayton Rubber Manufacturing Company, Dayton, Ohio, have prepared a complete catalog, the first of its kind, covering V-flat drives in a complete range of sizes for all ratings up to 300-hp. or more; and for use in general industrial service where large speed ratios and very short centers are involved.

The V-flat drive, it is pointed out, differs from the regular V-belt drive in that the large pulley is *flat* instead of grooved, the bottom surface of the V-flat belts riding on the flat surface of the large pulley. The Dayton V-flat belt was designed specifically for this service. The company explains that the lower cost of the flat pulley enables a change-over of existing flat drives economically by utilizing the existing large flat pulley in the V-flat drive. It is stated that the conditions for the use of the V-flat drive will be most favorable generally when the speed ratio is at least 3:1 or more, and the center distance is approximately equal to or slightly less than the diameter of the large flat pulley. When kept within these limitations of speed ratio and center distance, it is pointed out, the V-flat drive will operate with complete satisfaction, using approximately the same number of belts that would be required with both pulleys grooved, and with the usual advantages of the full V-belt drive.

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### Generating Set Bulletin

Troy Engine & Machine Company, Troy, Pennsylvania, have issued a new generating set bulletin covering vertical and horizontal engine driven machines in direct and alternating current. The application of these machines to this industry is based primarily on the generation of by-product power and the use of the exhaust for processing and heating; with such a combination, it is pointed out, the installation of generating sets has shown substantial savings.

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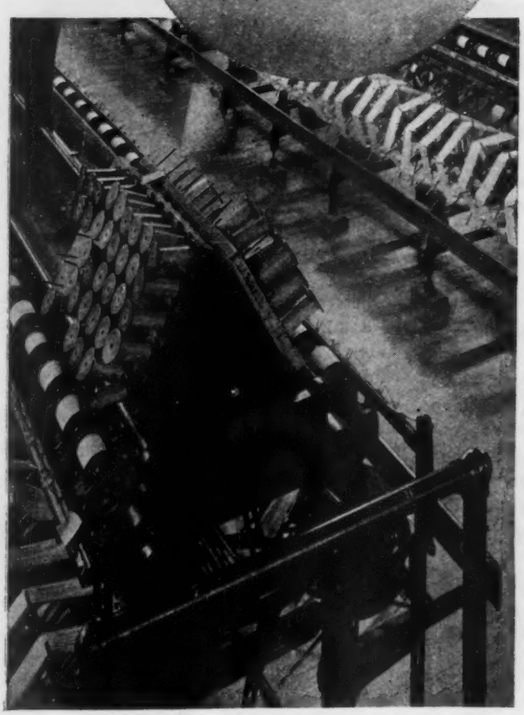
### Single-Head Full-Fashioned Knitting Machine

The Wildman Manufacturing Co., Norristown, Pa., have issued an informative, practical booklet descriptive of the Wildman single-head full-fashioned hosiery machine, which makes the regular full-fashioned stocking, knitting the legs on one machine and the feet on another. This single-head machine is described as follows: "The machine is virtually automatic. In starting the leg, the operator simply hooks the welt bar into the first course of knitting and starts the machine. When the welt is ready to turn, the machine stops automatically. After the welt is turned, the machine automatically completes the stocking and racks back to the starting point. In the operation of the footer, all that is necessary is to transfer the leg to the footer needles and start the machine. The foot is then knitted automatically and when it is completed the machine racks back to the starting point."

The booklet gives complete answers to questions concerning this new unit which manufactures one stocking at a time instead of several as on the multiple-section machine. The speed is higher, it is pointed out, and it is not necessary to slow down during narrowing and plaiting. One operator, it is explained, can run from 16 to 20



*Cooper Hewitts make it easy to see ends down in the plant of the Viscose Company at Marcus Hook, Pennsylvania.*

Cooper Hewitt mercury-vapor lamps have demonstrated their superiority for the lighting of nearly every process involved in the production of rayon products. In fact, more than 60% of all the rayon processed in the United States is made under Cooper Hewitts. From the machining, drilling and inspection of platinum jets until the finished goods leave the knitting and weaving areas, these lighting units are taking the kinks out of the manufacture of rayon fabrics.

The reason for such wide-spread use of Cooper Hewitt illumination throughout the textile industry goes far beyond any question of mere quantity of light. Other ways of getting just light appear to be less expensive. Cooper Hewitts have won their place solely because their light is of a better quality than can be obtained by any other means.

Cooper Hewitt illumination, due to its cool glareless character, provides a quality of light far superior to any other for the many process departments not only in the rayon industry but also in the many allied branches of the textile field. But, why don't *you* try Cooper Hewitts? A 30-day trial will demonstrate their value and involves no obligation to purchase the lamps used. For details, simply write to: General Electric Vapor Lamp Company, 853 Adams St., Hoboken, New Jersey.

**GENERAL ELECTRIC VAPOR LAMP COMPANY**

606 Copr. 1934. General Electric Vapor Lamp Co.

leggers; and one knitter with a topper can handle 8 to 10 footers. The smallest unit available is three leggers and one footer, for experimental and training purposes; while the smallest recommended practical unit is 18 to 20 leggers and six footers, which can be run by two knitters and one topper. The machines are 37 inches wide, 35 inches front to back and can be set up on 38-inch centers; and should be run at 75 to 80 courses per minute. A 3-hp. motor will drive 28 machines. The extreme flexibility of the single-head machine, for adaptation to fluctuating conditions of markets, etc., and the fact that special buildings and floorings are not required, are other points cited.

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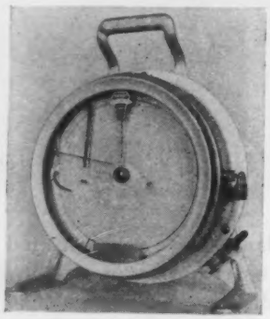
### New Light-Weight Portable Thermometer

The Foxboro Company, Foxboro, Mass., have marketed a new portable recording thermometer, for air temperature, which is available with



Portable device

either self-contained or long-distance type thermometers in 8- or 10-inch case sizes. A companion instrument is available for recording pressures. These portable recorders have been found useful, it is pointed out, in checking conditions of temperature and pressure at different spots periodically. Each of these portable recording instruments may be removed from its stand by simply unscrewing three bolts; the instrument can then be fastened on a wall or board for permanent use if so desired.

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### Metameter System for Telemetering

The Bristol Company, Waterbury, Conn., has developed a novel long distance transmitter and recorder operating on the chron-flo system. Adapted to the Metameter, this system consists of a transmitter, a recording receiver, a relay and rectifier box at the receiver, and a two-wire line connecting the transmitter and receiver. With this system, records of temperature, pressure, liquid level or motion may be transmitted great distances, 250 miles or more, with extreme accuracy and with freedom from circuit disturbances. The system requires a source of alternating current at both receiver and transmitter, but they need not be synchronized nor of the same frequency.

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### Booklet on Variable Speed Transmission

Reeves Pulley Company, Columbus, Ind., have prepared and are distributing a novel and interesting booklet giving engineering facts concerning the company's variable speed transmission. The booklet is cut out in exact reproduction of the Reeves unit, and contains brief, interesting information concerning this type of drive. The booklet is No. T-6700.

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### Foxboro's New Humidity Bulletin

The Foxboro Company, Foxboro, Mass., have recently prepared Bulletin No. 188, covering the company's recording and controlling instruments for humidity and drying processes. This is an attractive book of 32 pages filled with practical engineering information concerning these instruments and their application to various industries. Several illustrations are given of textile plant installations, including humidity controllers on rayon and cotton dryers, and relative humidity controllers for maintaining uniform room conditions in the mill.

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### Platt Spinning Catalog

Platt Bros. & Co., Ltd., Hartford Works, Oldham, England, have issued Catalog No. 5—Ring Spinning Frame, which describes all of the latest developments on the company's new ring spinning frames.

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### "The Story of Vim Tred Leather Belting"

Based on two years' experience in industry with its new form of leather belting with a "non-skid" surface, E. F. Houghton & Co., Philadelphia, Pa., have just published a 16-page brochure entitled "The Story of Vim Tred Leather Belting". The book is designed to set forth in words and photographs, the increased pulling power, longer life and minimum slippage of this belt as proven in actual service, it is pointed out.

:: :: ::

### Improved Lubricator

Victor Lubricator Co., 360 N. Michigan Blvd., Chicago, Ill., have announced the new 1000 series Victor automatic force feed lubricators, which, it is pointed out, incorporate a number of improvements. Cadmium plates steel replaces brass for greater tensile strength and reduced breakage loss; a new sight feed provides double visibility—reservoir supply as well as rate of feed. A new, larger filler tube permits easier, faster filling. A new top stamping, drawn and threaded, eliminates the hex nut formerly required. A new cap, redesigned to include a parented washer retainer, eliminates the cap retaining wire previously used, and a new valve control inside the filler tube is used to discourage tampering with the initial adjustment.

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### Booklet on Silicate of Soda

An attractive booklet on some of the important uses of silicates of soda in the textile industry has just been published by the Philadelphia Quartz Company, Philadelphia, Pa.

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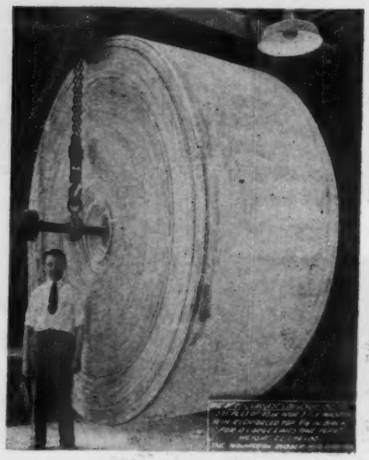
### Large Cotton-Content Conveyor Belt

The accompanying illustration shows one of the world's largest belts, built for a limestone plant by the Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc. This single piece rub-



"16 bales of cotton"

ber conveyor belt is nearly a quarter of a mile (1291 feet) long and 4 feet wide; over 5,000 square feet of tough rubber. It is 7 x 9 ply heavy duck construction with a 14-inch re-inforcement on top and a 1/16-inch re-inforcement on the back. 16 bales of raw cotton were used in making it. The belt weighs 11 tons and will deliver 1,500 tons (136 times its own weight) of crushed limestone every hour.

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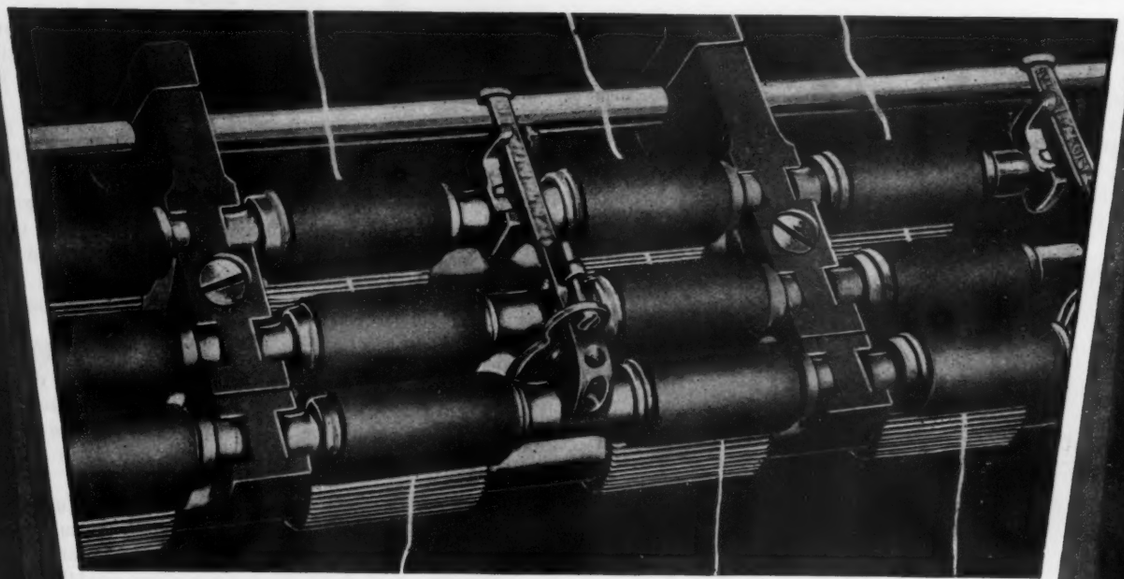
### New Locomotive Crane Catalog Released by Link-Belt

A new 16-page copiously illustrated catalog No. 1595 on Locomotive Cranes has recently been completed by Link-Belt Company, Chicago, Philadelphia. Tables of clearance dimensions and rated lifting capacities are given for machines for operation by either a gasoline, Diesel, electric, or steam driven power unit.

# After 100 years of progress, good leather still stands supreme as the perfect covering for top rolls.



WHY do the majority of the leading cotton mills of the country who cover their own rolls specify "Gilleather"?

The answer is that they demand leather that is absolutely uniform in grade and weight and will give *the maximum wear.*

You, too, should demand leather that will give the maximum wear. If you don't, no one else will.

The next time you send out a box of rolls to be covered, demand "Gilleather". They will cost you no more, and the long and uniform service will prove a valuable economy.

*SOUTHERN REPRESENTATIVES:*

*Gastonia, N. C. W. G. Hamner.*
*Griffin, Ga. Belton C. Plowden.*
*Greenville, S. C. Ralph Gossett.*
*Greenville, S. C. W. J. Moore.*
*Dallas, Texas. Russell A. Singleton.*

SHEEP and CALF SKIN

GILLEATHER

*for* TOP ROLLS

GILL LEATHER CO. SALEM - - - - MASS.

# TIMELY NEWS ITEMS WITH A TEXTILE SLANT . . . .

### Frank North and Associates Form New Harness and Reed Concern

Frank G. North, of Atlanta, and several associates have organized the Pioneer Atlanta Company, Atlanta, Ga., to manufacture loom harness and reeds. The company has acquired the Atlanta plant of Andrews Company, and is now in operation on its products. It will also represent a nationally known manufacturer of steel heddles.

Directors chosen on August 17, from whom the officers will be elected, are

F. G. North

W. W. Greer

Emile LeClair

Mark Mayes

F. G. North, Emile LeClair, Walter W. Greer, Glee B. Thompson, Mark W. Mayes and Fred M. Suchke.

Mr. North has been engaged in selling to the southern mills for about 30 years. Since 1919, until the formation of this new company, he has been president of the Atlanta Harness & Reed Mfg. Co., of Atlanta. He is also president of Frank G. North, Inc., manufacturers of sizing and finishing materials. Mr. LeClair and Mr. Greer have been representing the Atlanta Harness & Reed Mfg. Co., as salesmen, and Mr. Suchke has been general superintendent of that company's plant. He holds this position with the Pioneer Atlanta Company. Mr. Mayes, who is also connected with Frank G. North, Inc., was formerly superintendent of the Tifton (Ga.) Cotton Mills. Mr. Thompson has been associated with the Andrews Company, which is being succeeded by the Pioneer Atlanta Company.

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### Changes in Houghton's Southern Organization

E. F. Houghton & Co., of Philadelphia, manufacturers of oils and leathers, have announced some changes in the personnel of the company's southern sales division, effective August 1. W. H. Brinkley has succeeded H. J. Waldron as southern sales manager, with headquarters at 1410 First National Bank Bldg., Charlotte, N. C. Other southern representatives of the company are: Walter Andrews and C. L. Elgert, 1306 Court Square Building, Baltimore, Md.; J. E. Davidson, 2401 Maplewood Ave., Richmond, Va.; E. R. Holt, C. B. Kinney, and D. O. Wylie, 1410 First National Bank Bldg., Charlotte, N. C.; J. J. Reilly, 2855 Peachtree, Apartment 45, Atlanta, Ga.; James A. Brittain, 722 27th Place, South, Birmingham, Ala.; J. W. Byrnes, 333 St. Charles St., New Orleans, La.; and B. E. Dodd, 333 St. Charles St., New Orleans, La.

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### Changes in Houghton's Executive Force

Major Aaron E. Carpenter has been made president and general manager of E. F. Houghton & Co., Philadelphia, Pa. He represents the third generation of Carpenters to occupy the presidency of the company, and has been vice-president since 1929. Louis E. Murphy, formerly president, has been made chairman of the board. George W. Pressell is vice-president and director of sales; A. Everly Carpenter, 3rd, is secretary; Dr. R. H. Patch, treasurer; C. P. Stocke, assistant secretary; and Miss Menningen, assistant treasurer.

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### Ray Bell Now President of Textile Merchants' Ass'n.

At a meeting of the board of directors of The Association of Cotton Textile Merchants of New York, held on August 14, W. Ray Bell was elected president of the organization to fill the unexpired term of Magruder Dent of Joshua L. Bailey & Co. who has been serving his second year as head of the association. Mr. Bell will serve in the dual capacity of president and secretary. Other officers are Harry L. Bailey of Wellington Sears Company, vice president, and John C. Hughes, Jr., of McCampbell & Company, Inc., treasurer. The board adopted a resolution of thanks to the retiring president in appreciation of his unselfish and valuable services to the association and to the industry during a most difficult period.

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### Ready for the Textile Show

Plans for the eleventh Southern Textile Exposition, which opens in Textile Hall, Greenville, S. C., on October 15, are completed, and actual work of preparation has already begun. Repairing, re-painting and plastering have been done on the interior, the decorative scheme has been agreed upon, and materials ordered. The halls will be made unusually attractive this year. A temporary annex has been added to connect the two buildings as usual.

Most of the leading companies who have taken part in previous expositions are getting up their displays. Many interesting features are promised. A number of new lines will be seen for the first time.

Every executive of mills manufacturing yarn and cloth from cotton, wool, silk and rayon, and of dyeing, finishing and bleaching establishments, is cordially invited to attend the show, as well as their department heads and operatives. Public attendance will be limited to two days.

The management will send out tickets to all the mills in the South in September. Those in New England are requested to make application for the tickets they will need.

This is the first exposition held under NRA regulations. Due to the decreased numbers of machine hours and other restrictions, the management anticipates better conditions in the textile industry within a few months, and as manufacturers are carefully considering the question of their equipment it is expected there will be a large attendance of buyers this year.

W. G. Sirrine, managing director of Southern Textile Exposition, says that millions of dollars in sales will result from the displays made at the show. He is of the opinion that the federal regulations restricting the purchases of new textile machinery are not as burdensome as many suppose. He says that from unquestionable sources of information the policy of the plant extension committee in Washington is that old machinery in a mill may be replaced with new even though the result may be an increase of production, and the committee will give permission in certain cases for expansion of

# Announcing Staley's

## TEXTILE "S" STARCH

### A REALLY NEW AND IMPROVED THIN BOILING STARCH

This product is an entirely new development in Thin Boiling Starches, and is the result of extensive experiments in our own laboratories, and proven in actual mill operation. It is now offered as a striking contribution to increased efficiency and economy in warp sizing. Glance at the four features listed below, which are four reasons why you will be interested in Textile "S".

**1.** It cooks in 20 minutes. This shorter cooking time represents a saving in time, steam and labor.

**2.** It is non-congealing—an obvious advantage which means no clogged pipes. It may be left over the week-end without congealing.

**3.** It is absolutely transparent, an invaluable asset for all mills, particularly those on colored work.

**4.** In providing these new advantages, this product retains all of the well known Staley qualities as to elasticity, adhesiveness, minimum shedding, and drying ability.

Staley's "Textile S" starch is now in successful operation in a number of mills. It is backed by the standing, experience and knowledge which have made the name STALEY synonymous with quality, service and dependability among textile mills. We believe it can aid you in your sizing. We shall welcome an invitation from you to have one of our staff give you further information.

## STALEY SALES CORPORATION

*DISTRIBUTORS FOR*

**A. E. STALEY MANUFACTURING CO., DECATUR, ILL.**

New York City
Boston
Philadelphia
San Francisco
Dallas
Chicago
Atlanta
Spartanburg

a plant where good reason is shown therefor. He said:

"The Code permits the purchase of textile machinery without restriction in all preparatory departments, and permits replacement of what is termed productive machinery, which is defined as spindles and looms, unit for unit, even though the production of the new units be greater than that of the old. It also permits balancing of productive machinery where in the opinion of the plant extension committee, there is necessity for such balancing.

"In the case of finishing plants, there is no restriction on the purchase of machinery which does not finally determine productive capacity. The machines that are defined as productive machinery and which determine the ultimate capacity of the plant, may be purchased for replacement under the same general conditions as apply to spindles and looms."

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## Lestershire Sole Selling Agent of Chenco Textile Equipment

H. D. Clinton, president, Lestershire Spool & Mfg. Co., Johnson City, N. Y., has announced that his company has acquired the sole selling rights, in the United States and Canada, of Chemung Engineering Corp.'s patented improvement silk and rayon equipment, of especial interest to throwsters and rayon mills doing their own twisting. One item is a Pyrex bobbin for setting yarn twist with a saving in time. Since there is no chemical reaction in steam chests with Pyrex bobbins, it is pointed out, the yarn is not subjected to stain and the bobbin is always clean. The use of this bobbin also, it is pointed out, eliminates the redraw operation for all quilling yarn.

Mr. Clinton states, in regard to the danger of breakage, that one mill using 40,000 of these bobbins kept a close track of the breakage, and that only 7 of that number had chipped or broken in ten months.

Another product in the line are patented fingers for twisting and spinning machinery to give positive twist without slippage. Mr. Clinton's report on this finger equipment points out that:

Many throwing plants and rayon manufacturers are already more or less familiar with the Chenco equipment. The patented fingers which go on twisting or spinning machinery, especially when used in connection with the Pyrex steaming bobbin, give a positive twist without slippage on yarn even up to 32 thread. So that, with Chenco fingers and Pyrex bobbins, 'hard twist yarn' is eliminated while the yarn strength is materially increased. The spinning machine fingers have been applied to twisters for filling shipping bobbins by some of the larger rayon manufacturers, with the results of faster filling and better twist, due to no slippage. These fingers are applied to all types of winders and their use facilitates a perfectly wound bobbin at the maximum speed."

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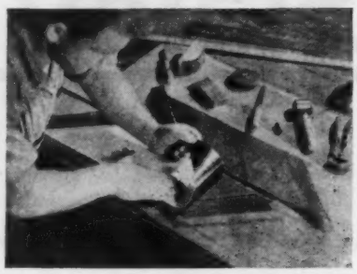
## Goodrich Engineer Perfects Endless Belt

A revolutionary method of making belts endless has been perfected by Fred G. Skeyhan, a member of the technical staff of The B. F. Goodrich Company, according to a current announcement. The improved construction, known as the "Plylock belt joint" is said to overcome a difficulty which has been experienced to some degree with all step belt joints—a tendency



Making endless belt

of the outside seams to open up during severe service. Skeyhan conceived the idea of imbedding or counter-sinking the seam below the surface of the belt in such a position as to relieve the seam from strain and shield it from wear or windage. This protection is made possible by a thick cushion of rubber reinforced with bias fabric which is permanently vulcanized into position.

Although the Plylock belt joint has been used successfully in the field by several companies during the last year or two, only recently was it definitely decided to offer it for public use. Patents for the process have been applied for by Goodrich who will license agents, jobbers, and users to make the Plylock belt joint themselves after Goodrich representatives have given them complete instructions. The improved construction will be featured in all Goodrich factory-built endless belts.

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## Link-Belt Personnel Changes

Link-Belt Company has announced several new appointments in its positive drive division. G. H. Burkholder, formerly of Philadelphia, is now western sales manager of the positive drive division, with headquarters at the company's Dodge Plant in Philadelphia. W. H. Kinkead has been made manager of sales of Link-Belt speed reducers, with headquarters in Philadelphia, succeeding Mr. Burkholder. G. L. Gansz succeeds Mr. Kinkead, and will henceforth be responsible for Philadelphia office sales of the positive drive division.

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## Laurel Soap Mfg. Co.'s Quarter Century

In the last twenty-five years many changes have occurred in the textile industry—new processes, new machinery, even a new fiber. Perhaps no organization has kept pace with these changes better than Laurel Soap Manufacturing Company, Inc., of Philadelphia, whose own beginning dates just a quarter of a century ago. In September, 1909, in a very modest way, William H. Bertolet began in one room at Front and Laurel streets to make a fine pure olive oil soap used widely in the textile field for degumming or boiling off silk, throwing silk yarn, scouring worsted yarn and piece goods.

To Laurel pure olive soap were added other products used in the treatment of textiles and in a year the new company had to double its floor space. In the years that followed the steady increased demand for Laurel products made it imperative from time to time for the company to obtain larger quarters and in 1927 we find Laurel Soap Manufacturing Company erecting a modern building with 60,000 sq. ft. floor space on a two acre lot at Tioga, Thompson and Almond streets in that city, and a railroad siding to facilitate shipments not only of the raw stocks in cars and tank cars, but deliveries to customers.

The new plant is equipped with modern machinery and a laboratory with competent chemists in charge. Here are tested the raw materials which are used in the preparation of Laurel Products and where new products are developed to meet the requirements of the industry. One of the most recent developments of the Laurel Laboratory is the new direct knitting formula, which eliminates the expensive backwinding operation in the manufacture of silk hosiery.

The business has been built on a foundation of uniform purity in the products manufactured and thorough knowledge of the requirements of the industry plus the ability and willingness to serve. The Laurel line includes a product to fit every need for scouring and processing wool, silk, cotton and rayon.

Laurel Products have an international acceptance. The company has direct representatives in contact with the trade in New England, Middle and South Atlantic States with warehouse facilities in Paterson, N. J., in Charlotte, N. C., and in Chattanooga, Tenn.

# TEXTILE MILL INVESTS $2500 WILL SAVE

# $800 to $1000 a YEAR

**AN ENGINEERING study recently made in a New England textile mill indicated that at least $800 to $1000 a year could be saved in power costs by the use of capacitors to improve power-factor. Special lint-tight units, totaling 212 kv-a., were selected from the complete G-E line of PYRANOL CAPACITORS, and installed at a cost of approximately $2500. They will pay for themselves in 2½ to 3 years—a profitable investment.**

**G-E dust-tight Pyranol capacitor unit for use in dusty and linty locations. These capacitors are nonflammable and require little floor space.**

***More and more, power companies and industrial users of power recognize the benefits of improved power-factor, which reduces idle current, line loss, and voltage drop. This results in better performance of lamps and motors, and makes possible a greater utilization of generating and distribution equipment.***

***General Electric power-factor-improvement equipment — capacitors, synchronous condensers, synchronous motors — will effect economy and improve plant operation. Our engineers can assist you by making such studies as are necessary for the most practical solution of your power-factor problem, and in the selection of the proper equipment. To obtain their services, or an interesting publication on this subject, address our nearest office, or Dept. 6A-201, General Electric Company, Schenectady, N. Y.***

360-84

**GENERAL ELECTRIC**

Shipments are made regularly to the textile districts of this and foreign countries.

Laurel Soap Manufacturing Company was incorporated in 1918. The business is operated by the original incorporators under Wm. H. Bertolet, president.

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## Sales Factors Corp. to Render General Factoring Service

Formation of a new factoring organization, to be known as Sales Factors Corporation, has been announced. It has been organized to render a general factoring service for merchants, manufacturers, importers, converters and selling agents of textile and other products.

Benedict Erstein, formerly president of L. Erstein & Bro., Inc., and recently vice president of Commercial Factors Corporation, will be president of the new corporation. He is well known in the textile field. Ernest C. F. Greeff, for many years a partner in the firm of Greeff & Company, has been named secretary and treasurer of the new corporation. He has been active in credit circles and at one time served as vice president of New York Credit Men's Association.

Executive offices of the new company are located at 1450 Broadway.

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## Long Term Loans Available to Established Business

The Industrial Loan Amendment to the Federal Reserve Act, which was approved by the last Congress just prior to its adjournment in June, enables the Federal Reserve Banks to make direct loans to business and industry; and there is now available for this purpose a total of several million dollars at each of the Federal Reserve Banks in the South—Richmond, Atlanta and Dallas.

This new loan agency is not intended to enter into competition with the established banks. Rather it will supply needed capital where for any reason existing banks are not in position to supply the funds. Bank loans are of necessity restricted to short-term loans; but loans are now available under this new agency for periods up to five years. Loans are made to facilitate business transactions and credit extension; but not to establish new business enterprises, construct buildings or expand present plant facilities. The usual security or evidence of satisfactory and profitable business operations is required.

An industrial advisory committee of five members has been appointed by each Federal Reserve Bank, to investigate applications for loans (which applications are made direct to the bank) and make recommendations thereon. I. C. Milner, executive vice-president of the Gate City Cotton Mills, Atlanta, is a member of the committee for the 6th District (Atlanta); and Harvey W. Moore, secretary-treasurer-manager, Brown Mfg. Co., Concord, N. C., is a member of the 5th District (Richmond) committee.

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## The 1933 Accident Experience of the Textile Industry

Some progress in safety was made by the textile industry during 1933, according to a survey recently completed by the National Safety Council. Records of 133 mills reporting for both 1932 and 1933 show a minor drop in frequency but a reduction of 16 per cent in severity. While severity has fluctuated widely during the last seven years, the industry has made consistent improvement in frequency.

The records of 158 mills that worked almost 172,000,000 man-hours during 1933, averaged 8.90 for frequency and 0.44 for severity. The 1933 improvement in the total severity rate is due to better experience with fatalities and to a reduction in the severity of permanent partial disabilities.

In making the survey, the Safety Council defines the basic terms thus: a disabling injury is any injury arising out of and in the course of employment that results in death, permanent total disability, permanent partial disability or temporary disability. Temporary disabilities include only cases where time is lost other than the day or shift on which the injury occurred. The injury frequency rate is the number of disabling injuries per 1,000,000 man-hours of exposure. The injury severity rate is the number of the days lost as the result of disabling injuries per 1,000 man-hours of exposure. This rate includes arbitrary charges for permanent disabilities and deaths, in accordance with the standard scale.

The 1933 injury record of textile mills is one of the best in American industry. The frequency rate is 49 per cent below the average of 14.56 for all industries, and the severity rate is 72 per cent below the all-industries average of 1.59. The favorable record of the textile industry is emphasized, also, by standings of 6th in frequency and 4th in severity among 30 major industrial classifications.

The 1932-1933 changes in rates for textile mills were favorable in comparison with variations in other industries. Frequency rates were high in most industries, increasing on an average of 7 per cent, but rates held steady in textile mills; in severity, the decrease of 6 per cent for all industries is considerably less than the reduction of 16 per cent for textile mills.

Woolen mills, according to 1933 records in various branches of the textile industry, offer the greatest opportunity for future improvement. Their rates of 13.53 for frequency and 0.81 for severity are high; needle trades have the lowest average frequency rate, 6.52, and knitting mills excel in severity with a rate of 0.05.

Cotton mills lost the most ground from 1932 to 1933 among the important divisions of the industry, as shown by increases of 18 per cent in frequency and 10 per cent in severity. The 1932-1933 changes in woolen mills were also unfavorable, particularly in severity which rose 129 per cent. Silk and "not otherwise classified" mills made the largest improvement. Better records for small and middle-sized units will also help materially to improve the experience of the entire industry.

:: :: ::

## New Metal Yarn

A new metal yarn, as pliable and as soft as thread made from any of the regular commercial fibers, is ready for general textile application, according to William Colvin, Jr., of Troy, N. Y., the inventor, who has just been granted patents for this latest innovation. This yarn, which will be made out of any kind of metal, is to be available in very fine, as well as coarse sizes, and will come insulated in cotton, silk, rayon or woolen thread, so that neither by feel nor appearance will one be able to detect its composition, it is maintained. Where copper is used, the heat conducting properties offer an entirely new market consideration.

Mr. Colvin, who is also president of Boswell & Davidson, Inc., converters of Cohoes, N. Y., says the possibilities for his new invention are unlimited. This metal yarn can be used for almost any of the regular commercial purposes as it is easily woven. It can be the warp or the filling, or both at the same time. It is satisfactory in every way for knitting, Mr. Colvin explains.

## Plug-in Blanket, Get Warm

While not yet in practical operation, Mr. Colvin says that his experiments have definitely convinced him of the practicality. Just a few of the ideas mentioned are noted below. Blankets could be made from this copper yarn. It would be merely necessary to "plug in," turn on the switch, and there would be even warmth throughout. The same principle would work with a bed sheet says Mr. Colvin. Questioned about the cost, he assures that it will not be much over the regular price for good merchandise. Another idea he mentions is a heavy cloth for wall covering, such as is now being

made by the leading oil cloth producers. Merely turn on the switch, and this wall covering would have an even heat throughout.

Men's overcoats might be eliminated to an extent, it is suggested, if the back of the vest is lined with fabric made of the copper yarn. It would be simple to have a small battery in one's pocket, turn this on, and thereby warm the body. Another application is for an outer covering on an airplane, so that in winter, any ice coating could be made to melt readily.

While soft and pliable, the new metal yarn holds firm, said Mr. Colvin, adding that it would be desirable for corsets, as foundation garments made of this material will not wrinkle or lose their shape after considerable wear, as is true at present. The same with shoe linings, he remarks. The lining will hold firm, so the top of the shoe will not sag and thereby lose its form and appearance.

Another idea is for tents. The Army could use tents of this description, as could any camper. When spread out on damp ground, it would be merely necessary to "plug in" and the tent would be warmed up. Awnings and boat sails also are mentioned as prospective uses. Mr. Colvin experimented with rugs and says the application is practical.

### International Cotton Loom Statistics

The International Federation of Master Cotton Spinners' and Manufacturers' Associations, 26 Cross St., Manchester, England, have recently issued a booklet showing the result of the International Cotton Loom Census, as of December 31, 1933.

It will be remembered that the last census was taken in 1930.

The first tabulation on pages 4 and 5 shows the number of cotton power looms in place in the mills in the various cotton manufacturing countries of the world. The figures for 1933 are placed side by side with the comparative figures for 1930.

Another tabulation on pages 6 and 7 shows the number of idle looms on December 31, 1933 last, together with comparative figures for 1930, and still another tabulation shows the number of looms in course of erection.

A new feature of the present publication is the inclusion of a table showing the number of cotton looms engaged in the production of fabrics composed of a mixture of artificial silk and cotton, and also looms working on fabrics composed solely of artificial silk.

On page 11 will be found the tabulation showing the average hours worked per week in the various countries and the average normal working hours per week when on full time.


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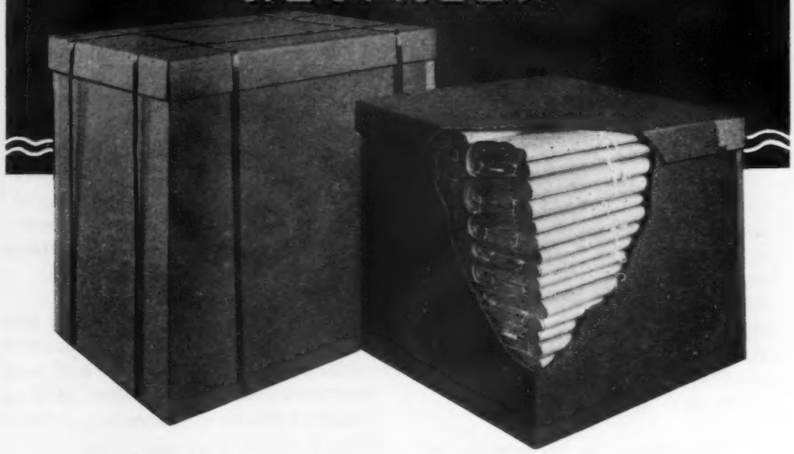

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# PERSONAL NOTES
## about Men You Know

FRED L. STILL, who was elected chairman of the board of governors of the Southern Textile Association at the Myrtle Beach meeting in June, is superintendent of the Victor plant of the Victor-Monaghan Company, at Greer, S. C. He is a son of B. L. STILL of Lancaster, S. C., and a brother of W. J. STILL of Greenville and C. L. STILL, who is connected with the Springs Cotton Mills at Fort Mill, S. C.

F. L. Still

O. T. SHELTON has been made overseer of finishing, boarding, and dyeing at the new addition of the Commonwealth Hosiery Mills, of High Point which is located at Randleman, N. C.

FRANK NASMITH, honorable secretary and vice-president of The Textile Institute of Manchester, England, and executive manager for the Universal Winding Company in Great Britain and Ireland, visited the United States in July for about three weeks, and conferred with the officials of the Universal Winding Company. Several entertainment functions were executed in Mr. Nasmith's honor during his visit.

GEORGE BOYS has been made superintendent of the China Grove (N. C.) Cotton Mills, succeeding the late L. B. LAUGHLIN. Mr. Boys, a son of ROBERT W. BOYS, president and treasurer of Green River Mills, Tuxedo, N. C., has been recently engaged in special research work at the Massachusetts Institue of Technology, and previously was an operating executive in several New England mills.

CALVIN E. SWEET, for a number of years general superintendent of B. B. & R. Knight Corporation's mills, has been made superintendent of the company's Royal Mill at Riverpoint, R. I., Arctic Mill at Arctic and Grant Mill at Providence, R. I. He succeeds HENRY F. SISSON, who has been superintendent of the Royal Mill for 18 years. Mr. Sweet will be assisted by CHARLES HAYNES as assistant superintendent.

O. S. SHELTON has become overseer of spinning at the Flint River Cotton Mills, Albany, Ga.

HOWARD J. SPRY has been made general superintendent of the High Shoals (N. C.) plant of Manville-Jenckes Corporation. He is a graduate of the textile school at N. C. State College.

JOHN C. ADAMS, a member of the class of 1933, textile school, N. C. State College, has been made superintendent of Hannah Pickett Mill No. 1, Rockingham, N. C. P. H. BURRUS, JR., another member of this class, has accepted a position in the technical division of Martha Mills, Thomaston, Ga.

WILLIAM J. DUGGAN has become general superintendent of The Spencer Corp., Spindale, N. C. He has been superintendent of the Louise Mill of Chadwick-Hoskins Company, Charlotte, N. C.

ROBERT R. BERRY, JR., of Union, S. C., has become associated with the Staley Sales Corporation, distributors of the products of the A. E. Staley Mfg. Co., Decatur, Ill., as sales representative. He is representing the company in the South Carolina territory formerly handled by JOHN EARL JONES, who has resigned.

Mr. Berry

I. N. DUNN has become superintendent of the Edna Mills Corp., Reidsville, N. C., succeeding JOHN T. WIGINGTON, resigned. Mr. Dunn was formerly superintendent of Hannah Pickett Mill No. 1, Rockingham, N. C.

HENRY MCKELVIE has been made resident agent of the Loray and High Shoals plants of Manville-Jenckes Corp., with headquarters at Gastonia, N. C. He succeeds JOHN A. BAUGH, JR., who recently resigned.

JAMES M. BAILEY has been promoted from production manager to superintendent at the Slater Mfg. Co., Slater, S. C., and C. R. BARTON, a textile graduate at Clemson College in 1929, has been made production manager. FRED W. KEASLER is overseer of weaving.

ARTHUR M. DIXON, vice-president and assistant treasurer, American Yarn & Processing Co., Mt. Holly, N. C., and president of the Dixon and Trenton Mills, Gastonia, N. C., has been made a member of the National Cotton Textile Industrial Relations Board, for the handling of labor disputes under Section XVII of the Cotton Textile Code, which was recently increased by the addition of two members. Mr. Dixon, a former president of the American Cotton Manufacturers Association, will, with Dr. B. E. GEER, already a member of the board, represent the employers on the board; C. M. Fox, of Shelby, has been added to the board as labor representative along with Major GEORGE L. BERRY.

STANLEY A. BLACK, who has been manager of the Oakland plant of Kendall Mills, at Newberry, S. C., has recently been promoted to the position of assistant to H. K. Hallett, general manager of the company's five southern mills. Mr. Black is making headquarters in Charlotte. At Oakland he is succeeded by BEN A. KNOWLTON, who has been assistant manager.

Mr. Black

FREDERIC W. HOWE, vice-president of Crompton & Knowles Loom Works, of Worcester, Mass., and Philadelphia, Pa., passed away at a hospital in Fall River, on August 17, following a brief illness. Mr. Howe, who was 60 years of age, was one of the leading figures in the textile machinery manufacturing industry, and was widely known throughout the South.

### Obituary

LOUIS B. HASBROUCK, of the Eclipse Textile Devices, Inc., of Elmira, N. Y., died at a sanitarium in Lumberton, N. C., following a brief illness incurred while visiting the company's southern plant at Bladenboro, N. C. He was 50 years of age, and an inventor of national fame.

EDWIN H. WILLIAMSON, of Fayetteville, N. C., died suddenly of a heart attack on July 26. He was 67 years of age. Mr. Williamson was president of the Holt-Williamson Mfg. Co., and was connected with a number of other textile enterprises.

WALTER B. DAVIS, head of the W. B. Davis & Sons, Inc., chain of hosiery mills in Alabama, died of a heart ailment in July.

JOHN F. BANDY, overseer of spinning at the Aiken Mills, Bath, S. C., died suddenly at his residence recently.

# Behind the service record of GOODYEAR

THE GREATEST NAME IN RUBBER

## MECHANICAL RUBBER GOODS

is the strength woven into the high quality cotton duck and high tensile cords that reinforce them . . . strength that goes back to the spinning of the yarns. Significantly, the great Goodyear Mills, on their roll coverings, use

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*Specialists in Textile Leathers*
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THE ENZYMATIC *All-purpose* DE-SIZING AGENT!

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# AN OLD TIMER SAYS

In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

## Want a Raise?

Sometime ago a personal friend of mine who is an expert corporation tax man, was sitting in my office for a friendly chat about things in general. An accountant who was working in the same town dropped in to see him. The accountant asked my friend, the tax man, about making a certain entry which involved several thousand dollars if it was entered wrong. In other words, the accountant wished to know how to make the entry so that it would save his firm several thousand dollars. After the accountant had fully explained the details, his inquiry was put in the form of a question. My friend, the tax expert, simply answered with the word "No" and the accountant thanked him and walked out.

As we resumed our chat I could not get their conversation off my mind. Just that one word "No" which had meant the loss or gain (saving) of several thousand dollars. Finally I asked the tax expert how long he had devoted his whole time and study to tax matters. He explained that he had ferreted out mistakes in many tax returns which in all had amounted to several million dollars.

"Do you realize", I said, "that your answer to the accountant was based on 15 years of all kinds of experiences in tax matters and that your whole subconscious mind responded; went back, so to speak, over all those experiences, thus enabling you to simply say 'No' instead of 'Yes'?"

"No", he replied, "I had not really thought about it that way".

Goodness, fellows, what a wonderful asset Experience is to any man. There is no way to really put a dollars and cents value on it.

And here is COTTON, gathering the experience of the best mill men in the country and passing it along to you for the ridiculously low price of $1.00. Are you trying to profit by all of the experiences set forth in "HOW OTHER MEN MANAGE?" Do you realize that if you only get one idea in a year from reading COTTON that it may be worth hundreds of dollars to you? Yes, it may be worth promotion with a raise in salary.

* * *

To see a first-class job done under his direction is just about the most pleasure an overseer or superintendent can have. To take a loyal employee, let it be weaver, spinner, frame hand, section man, overseer or superintendent, or manager, and after you have worked patiently with him; after you have given him the benefit of all your mistakes and all your successes—then to see that man improve in his work; see him working like he enjoys his work and finally come through with a job well done—now fellows, that's what OLD-TIMER calls pleasure.

## How Much Do You Know?

Most of us take it for granted that the old things—the old methods, are O. K., because we know about them. We have seen them work for years. But when a new idea is brought forth we at once begin to think of all the reasons in the world why it will not work. We forget that the old things—the old ideas, were once new.

If you will start tomorrow to test the strength of your arm by muscling out a weight and find out say, 10 pounds is what you can muscle out—if you practice only two minutes each day, it is a conservative statement to say that in a month you can muscle out 20 per cent more, and with less exertion, less strain.

That same reasoning applies to your brain, my good friend, with this exception: Your brain has the faculty of being able to gain a much larger percentage than any muscle in your body, and another exception is, that there is a limit to the gain you can make with the muscle of your arm, but there is no limit to the capacity of your brain. The more you put into it the greater its capacity will be for more. There is no danger of ever filling up your brain with knowledge. It can't be filled up. Putting knowledge into your brain only makes it easier to put in still more.

Mr. Overseer of Weaving, what do you know about carding and spinning?

Mr. Overseer of Carding, what do you know about weaving and spinning?

Mr. Overseer of Spinning, what do you know about weaving and carding?

Of course if you can't use the money a larger salary would bring, why bother? But if you can, remember there is always somebody falling off of the top, which leaves room for you.

THEY TELL ME THE EYES OF THOSE EMMONS CHAFELESS STEEL HEDDLES GET POLISHED 60 TIMES!
WELL, THAT OUGHT TO MAKE THEM SMOOTH ENOUGH TO WEAVE ANYTHING!
EMMONS ALWAYS WAS GREAT ON MAKING GOOD HARNESS — THEY'VE BEEN DOING IT FOR OVER 66 YEARS. IT'S NO WONDER THEY KNOW HOW!

Emmons Chafeless Steel heddles are highly polished, super-smooth—with a non-chafing eye that has been polished sixty (60) times. You can get Chafeless Steel in either Nickel or Cadmium plate.

Or if you need cotton or mail-eye, remember Emmons makes all 3: Chafeless Cord, Chafeless Mail or Chafeless Steel.

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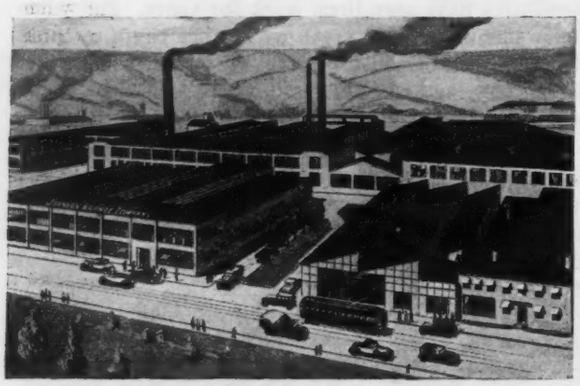

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Solid and Cored, Completely Machined, ID, OD and Ends. Absolute freedom from undersurface defects.

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Available in over 600 sizes. Machine finished — ready for assembly.

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For the more popular types of motors.

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**FOR ALL TEXTILE PURPOSES**

Manufactured by

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NRA MEMBER U.S. WE DO OUR PART

QUALITY SERVICE

# HOW OTHER MEN MANAGE

## Practical Discussions by Cotton's Readers On all Varieties of Mill Subjects

### Handling a Large Variety of Filling for the Weave Room

**How can this man best handle his wide range of colors and numbers efficiently? Is his idea practical? . . . . . .**

EDITOR COTTON:

We have in our weave room a problem which we would like to submit for your help and which you may publish for discussion and comments.

We make a large variety of all kinds of cotton goods, and this necessitates having a great number of filling yarns in stock in the weave room. At the present time we are running 55 different kinds of filling; this is not that many yarn numbers, however, but includes different yarn numbers and also different colors. The filling, as we now handle it, is brought directly from the spinning room in old style wooden box trucks, and these trucks are stored in the weave room. Due to their size, the trucks which we are now using and of which we have a stock of 424, take up a great amount of useful space in the weave room.

I have thought of having bins built in the weave room into which each different kind of filling could be placed when it comes from the spinning room, to be taken out of the bins as needed, thus necessitating the use of only a few trucks for moving the filling from the spinning room to the bins and then from the bins to the looms.

As we are now using 55 different kinds of filling, there would have to be at least 60 of these filling bins constructed. The type and size of each bin construction would have to be carefully thought out so that the stock in the bins could be easily checked up on and the filling put in and out of the bins without any great amount of excess labor being necessary.

I also thought that in order to condition this filling, that these bins should be closed in with easily opened doors and maybe have a pipe connection put into the bin which would spray the yarn with filling conditioning liquid.

I know that anything would be better than the method we are now using. I hope that when this letter is published we will get some helpful information along this line. I would be glad to have those answering give us their experience and opinion, under the general conditions outlined, of the idea I have in mind, and suggest in connection with it what they have found to be the best procedure, and go into detail giving specifications, details of layout, and any other complete suggestions that will be helpful in working out this problem. I am sure there are other readers of your magazine who have been confronted with and have solved according to their own conditions a problem similar to this, and I would very much appreciate the benefit of their experience in full.

CONTRIBUTOR NO. 6334.

◆ ◆

WE invite our readers to make use of this department for the discussion of any and all prob'ems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

◆ ◆

### Paying Piece Rates on Slashers

EDITOR COTTON:

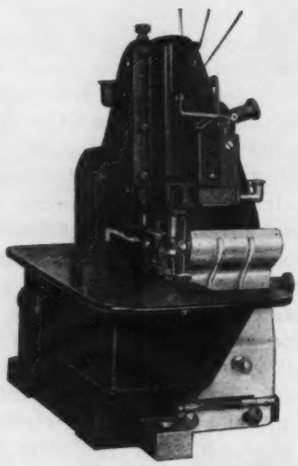
I am writing to answer the question of "CONTRIBUTOR NO. 6321" in the April issue of COTTON asking about the advisability of paying piece rates for slashing. I think there is as much advantage to be gained through piece work on slashers as on any other operation, if the work has proper supervision.

After establishing a piece rate for slasher tenders, it is a good idea to offer a bonus for perfect work and apply a reduction for inferior work. The writer installed this system in a 64,000-spindle mill with eight slashers, running on yarns from 7s to 30s. The slashing had been operated on an average of 15 hours extra each week in order to keep up. After putting in a system of piece work, all extra time was eliminated and one slasher was discontinued, representing a saving of $30.00 per week in labor and 16 per cent coal saving on the two boilers used for heating and slashing. During a period of four and a half years, on 1,900 looms, not a single warp was cut off of the looms due to inferior work.

However, I might say that these slashers were at the same time equipped with regulators on the cooking kettles, size vats, and cylinder control. Charts from these regulators were inspected on each unit daily and changed. A circulating system from the storage tank through the eight slashers was continuous, and the size was kept boiling continuously at a temperature of 208 to 210 degrees.

M. V. J. (N. C.)

# *Is there a gold mine in your sewing room?*



Union Special equipment sets modern standards of sewing room efficiency. The Style 39200, illustrated above, cut costs 16.1% in one plant. This is typical of many cases of modernizing. May we give you data applicable to your own conditions?

MANY a manufacturer has discovered worth while profit right in his own sewing room. By modernizing his equipment he has speeded up production and reduced costs materially.

You may have similar possibilities. It's easy to find out. Our form 374 is designed to help you check existing performance against modern standards. You make your own comparisons and draw your own conclusions. We're glad to send the forms and any facts you need regarding the latest equipment for operations such as yours.

There is no obligation in asking for this co-operation.

UNION SPECIAL MACHINE CO.
400 North Franklin Street, Chicago, Illinois, U. S. A.

# Points on Loom Fixing (Part 4), by Ivar Moberg

*(This is the fourth in a practical series of articles on loom fixing which we know will be of value to many of our readers. The first installment appeared on page 87 of the June issue, the second installment on page 71 of the July issue, and the third installment on page 69 of the August issue. In those installments, the subject of mis-picks, broken picks, double picks, filling kinks, kinky warps, creepers, pull-ins, and skips were discussed. We are particularly pleased that we have the opportunity of presenting these comments from a practical mill man.*—THE EDITOR.)

### Reediness

The defect of reediness is in some cases very persistent, and it is recognized by the ends drawn in the same dent running in groups with a space between them. This trouble is also some times referred to as poor cover. To overcome this defect, we raise the drop wire banks or take-up roll or sometimes both. On looms with low take-up roll we raise the breast beam which will give the same effect as raising the take-up roll. In raising the take-up roll, or the breast beam, we must not overdo this as it will prevent the warp line of the lower shed from running parallel with the race board angle.

It is obvious that if we raise the drop wire banks, we must also raise the whip roll correspondingly, for we must always maintain a level line of the warp threads from the whip roll to the top of the drop wire banks.

The reason for making the take-up roll and drop wire banks higher than the harness eyes, when the latter are even, is to slacken the upper shed, placing most of the tension on the lower shed. This is far from being an ideal weaving condition but we have simply got to eliminate the reediness of the cloth so we have no choice in the matter.

With the upper shed slack there will be a continuous tightening and slackening of the warp threads during the weaving. This will force the warp threads to seek the position of the least resistance, which is half way between any two adjacent threads. The beaten up pick is also permitted to dislodge itself somewhat, by this setting, and it is not fully beaten up before two or three more picks have gone into the cloth.

The result is that the pick is not fully beaten up directly by the reed but is forced up by succeeding picks at a time when the reed has lost most of its control over the warp threads and these are freer to spread out evenly. However, we must not get the upper shed too slack as it will have a tendency to cause over-shots. It is also likely to cause more warp breaks as the thread in the lower shed will carry most of the tension when the ideal weaving condition would be to have a straight warp line so that all the threads would share in carrying the tension. Few fabrics can be made satisfactorily by the ideal setting, so we will have to sacrifice this for a good appearance of the fabric.

Another thing which will help to overcome reediness is to time the shed early so the picks will be beaten up behind crossed shed. Reeding the warp with one end per dent will of course entirely eliminate reediness in the fabric, but this can be done only on low sley fabric. Using reeds made from thin tempered steel wires will greatly help to overcome the defect of reediness. On certain classes of fabrics a slight reediness may disappear in the finishing, but we should not depend upon that.

### Shuttle Marks

Shuttle marks may be recognized by a series of dirty places in the filling running lengthwise in the cloth. The dirty places are laid in the cloth at almost the same distance from the selvage and the dirty places in the filling seldom, if ever, exceed one-inch in length. The main causes of shuttle marks are oily or greasy leather on the box front, poor and sticky varnish on the shuttle, dirty shuttle boxes, and too much humidity in the room. There are numerous other causes for shuttle marks which sometimes are very difficult to locate.

We first clean the shuttle by sandpapering and replace the old leather on the box fronts. This will probably stop the defect, at least for the time being. If the defect re-occurs after awhile we know that something else is causing it, and we can take it for granted that somewhere the filling is being pinched. It is many times difficult to find out where it is being pinched.

We first see that the shuttle enters the shuttle box without slapping the box front, that the filling does not flip up or down when the shuttle comes to rest in the box; that the thread groove in the shuttle is not worn shallow so that the filling is pinched between the shuttle and the box front; that the feeler enters in the center of the feeler slot in the shuttle so that the filling does not get pinched between the feeler and the feeler slot; and that the filling does not get pinched between the box plate and the sharp edges of the bottom cut-out in the shuttle. To lessen the latter tendency we round off the bottom edges of the bobbin cut-out in the shuttle. We also see to it that the picker does not drag on the box plate, which is likely to pinch the filling.

The picker should always be free from the box plate to eliminate this defect. If the loom has front binders, the filling is likely to get pinched between the binder and the mouth-piece. To overcome this we bend the binder, if it is of steel, so that it will come into contact with the mouth-piece only at its extreme end, leaving a space between the rest of the binder and the mouth-piece. If the binder is of a material which cannot be bent, we place a piece of leather between the extreme end of the binder and the mouth-piece, which will prevent the filling from being pinched between the binder and the mouth-piece.

We recognize the defect of uneven weaving by

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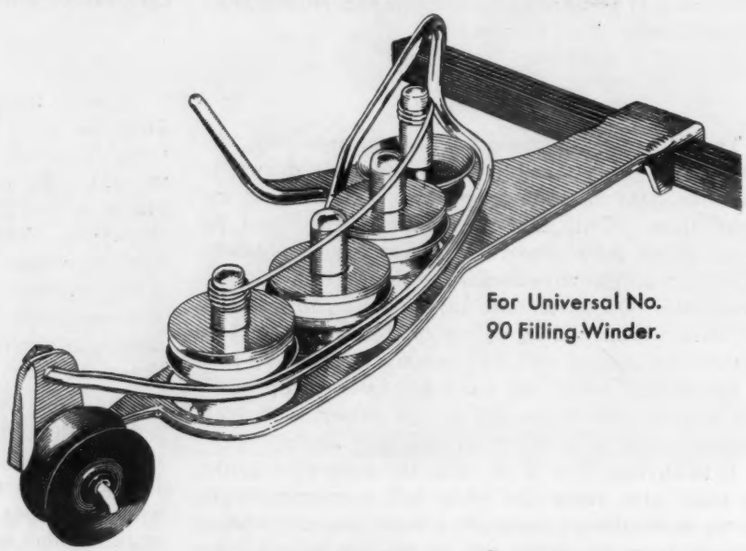

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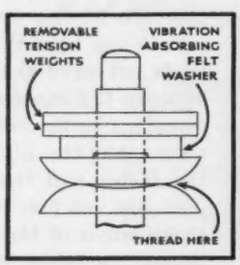


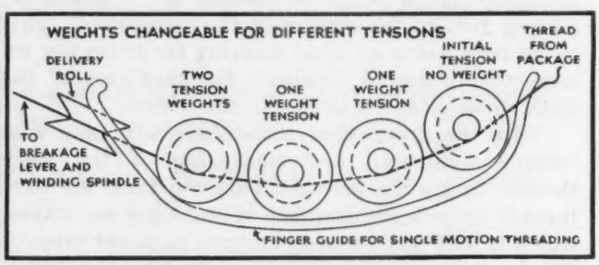


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alternate light and heavy places in the cloth, the average picks of which give the correct pickage. In most instances in the case of this defect we find that the let-off is at fault. Consequently we examine the movement of the warp beam while the loom is running. If the warp beam does not move evenly for each pick, but moves jerkily at intervals, we are reasonably certain that the let-off is at fault. This refers of course only to the friction let-off. The latest automatic let-off on the market today will give an absolutely even let-off if properly adjusted.

### Uneven Weaving

To remedy the jerking or jumping movement of the warp beam with the friction let-off, we take off the chains, one at a time, after first putting additional weight on the opposite chain so that this alone will hold the beam in position. We now clean carefully the friction drum on the beam and the chain. Next we put a piece of leather under the chain to hold them slightly apart and add a little graphite on the drum. We repeat this process on the opposite chain, and in putting the chains back we take great care that the chains do not ride on the edge of the drum or on the beam flange.

It is very important that the weight levers are so adjusted that the chains will be held in the center of the friction drum.

We should also examine the drums to see that they are not scored or broken.

This defect can also be caused by crooked beam gudgeons. In this case there is not much we can do except to cut the warp out and have it re-beamed. To attempt to straighten the gudgeons in the loom is a dangerous practice and it is safer to re-beam the warp.

Another thing that will sometimes cause uneven weaving is using cast gears in the take-up motion. If some of the cast gears are poorly made they will not run true. The pitch circle will vary and the ratio of the take-up combination will be changed at intervals. Hence, we will have light and heavy pickage in the cloth. Most of the looms being made today have cut gears, and it is the poorest mechanical practice to use a cast pick gear, for instance, in combination with cut gears.

(This concludes the fourth installment of the current series on Practical Loom Fixing by Mr. Moberg. The next installment will cover Thick Places, Thin Places, Temple Marks, etc.—The Editor.)

## A Fly Frame Question For K. C.

**"Wash" wants an answer from "K. C." to one of his June questions before answering "K. C.'s"problem in the same issue . . . . . .**

EDITOR COTTON:

On page 111 of the June issue of COTTON, "K. C. (CONN.)" puts the following question to me with reference to a fly frame: "What makes the bobbin gears revolve when the cone is raised up, and the cone belt and the bottom cone is still?"

I have the highest regard for "K. C.", and I would not want him to feel that I am slighting him in the least, but I feel that being obliged to answer so many of my critics, I am having more than my share of space.

So, in the meantime, I would like for "K. C." to dope out the seventh question which I submitted to "A. T. G." on page 98 of the same issue, and which, by the way, he hasn't answered yet. This question is:

"When the bottom cone is raised, the spindle and bobbin rotate at the same speed. Then, if one revolution of the differential sleeve will wind 3 inches of roving when the driving shaft is stopped, how many inches will be wound if the differential sleeve makes one revolution when the driving shaft is up to speed? This is figured out by the rule of three. In answering this question, be careful and not give the bobbin lead system a black eye, like you have the textile school."

If "K. C." fails to answer this question, I will do so, and at the same time his question will be answered, and I will prove beyond any doubt that the cone belt is the only agent that drives the excess speed, and that the fixed gear on the driving shaft has no part in driving the bobbin in advance of the flyer.

WASH (R. I.)

## Preventing Puckered or Rippled Selvages

EDITOR COTTON:

I notice on page 89 of the May issue of COTTON that "CONTRIBUTOR NO. 6313" is asking for the causes of a rippled or puckered selvage on a three-harness drill weave, with 12s warp and 18s filling. He stated that he has a slackness in the cloth on each selvage which extends 3 or 4 inches and runs the entire length of the cut.

Of course, without knowing a great many other things about his conditions, the best we can do in answering is to make some general suggestions, but I would advise that he check the following points:

1. Examine the section beams from the warpers, to see that the ends near the heads on each end are not crowded, as this would make a slack selvage when slashed.
2. Reduce the number of ends per dent in the slasher comb (about 3 inches on each end) from the number that is used for the body of the cloth.
3. Adjust the slasher comb so as to prevent the yarn winding on too close to the heads of the loom beam and thereby cause the ends near the loom beam to pile up and weave off slack. Also check the compression roll and the tension roll.

CONTRIBUTOR NO. 6319.

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EDITOR COTTON:

I note that "CONTRIBUTOR NO. 6313", in the May issue, is having trouble on a 3-harness drill weave, because of slackness in the cloth on each selvage. While we have not experienced trouble exactly similar to this, we have had slight puckering on cloth of a very high construction made with coarse filling. The trouble which we had did not extend three or four inches from the selvage, as this man states his does, but was caused by our inability to obtain the

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same tension at the selvages that we had in the body of the cloth.

It is my personal opinion that this man's trouble might be due to slack selvage ends on the warper beams, or possibly on the slasher beams. It would be my personal suggestion that he check these two operations. In the event that is not the cause of his trouble, it would be well for him to check his looms carefully, to see if he is getting an oscillating motion because of worn bearings on his take-up rolls or whip roll.

I do not think of anything else at this time which might be causing this trouble, but I would be glad to make any other suggestions possible if your contributor will advise the exact construction, yarn number, and type of selvage used in this cloth.

CONTRIBUTOR No. 6320.

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EDITOR COTTON:

This refers to the question of "CONTRIBUTOR No. 6313", with reference to trouble with slack selvages on twills. I would like to offer the following suggestions:

First see that the loom is level, that the lay is level, the whip roller is level, and the sand roller is level. Then be sure the sand roller has good fillet on it, and that it is sufficiently tight so that there is no possibility of slipping between the cloth and the sand roller.

Drop the whip roller and stop motion as low as is practical. See that the temples barely miss the race blade. Also see that the temples work backward and forward with the motion of the lay from ½ to ⅝-inch, and that they have a good full grip on the cloth and have good burrs.

Be sure that the blocks in the cloth roller stands are in perfect condition, and that they hold the cloth roller in perfect alignment with the sand roller. Examine the sand roller bearings to see that they are not worn so as to throw this alignment out after pressure is exerted.

If two springs are used and control separately the cloth roller stands, it would be my advice to change this so as to make a positive connection between the gears which lift the sand rack and, if necessary, change both springs so as to exert a pressure on this shaft, instead of on the gears themselves, letting the shaft of course turn the gears, which in this case would be fastened to them.

Sometimes, on the slasher, the selvage threads exert greater outward pressure on the rake than is exerted by the threads at the middle of the beam. This can be overcome to a certain extent by putting in an extra rake back of the regular expansion rake, similar to the extra rake used on a beamer.

Sometimes it is desirable to count one less end into the rake dents on the slashers for 2 to 3 inches from the selvage than in the body of the cloth. This will naturally avoid a tendency toward piling up near the head of the beams and result in the cloth lying down more smoothly or avoid bagging of the selvage.

Coming back to the loom, it would likely be necessary in such a case as described to have a good bristle or other suitable friction in the shuttle.

If steel harness are used, see that there are plenty of harness hooks to hold the harness bars in perfect alignment. Then set the stop motion so that there is no undue strain on the warp at any time. I would suggest leveling the harness with the lay about 2½ inches from the fell of the cloth, although this may be varied as is dictated by proper observation.

CONTRIBUTOR No. 6321.

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## Tight and Slack Ends on the Slubber

**"Wash" digs up some old discussion by "D. E." and confronts him with it . . . . . .**

EDITOR COTTON:

Here is a good one that is a brain teaser and one which is written for the benefit mainly of the textile school graduate, for I want to repeat that such information is not taught in textile schools.

Let me do a little retrospecting. Away back in the May 1930 issue of COTTON, "V. T. (GA.)" wanted to know why it is that ends on a slubber run slack until the bobbin is about half full and then run tight for the rest of the set. "D. E. (R. I.)" answered "V. T." and advised him as follows: For a 12 x 6 frame with a 2-inch diameter bobbin, position the cone belt 1⅞ inches from the end of the cones. For an 11 x 5½, set the cone belt ⅞-inch from the end of the cones.

That comes from "D. E. (R. I.)" who boasts of having 25 years of experience in England before coming to America.

What has the starting point of the cone belt to do with remedying the relation between cones and flyer, which is the trouble in this case?

Continuing, "D. E." states, "It might be that a badly worn middle top cone shaft bearing causes a slight eccentric motion of the cone, thus resulting in uneven tension on the cone belt until it reaches a point where the eccentric motion is eliminated, probably about half way up the cone".

If a middle top cone shaft bearing causes a slight eccentric, it will do so at every point of all intermediate speeds.

Again "D. E." stated, "If such is the case, I imagine the bolsters are binding the carriage mostly during the longest traverse and this will cause slackening of the ends for that period."

"D. E." forgot that even when the bolsters are in such condition, and reduce the speed of the frame, that a slack tension will increase the diameter of the bobbin at the start. Therefore, such a condition would create a tight tension at the beginning of the set. Is that not logical?

Again, "D. E." states, "Are they worn and therefore not maintaining their true outlines (referring to the cones)". This is the only sensible point "D. E." springs in his article. The trouble is in the intermediate speeds. Every student should have the following in mind:

Cones on all fly frames really are governors of the intermediate speeds. Difference in speeds calls for cones of a different form.

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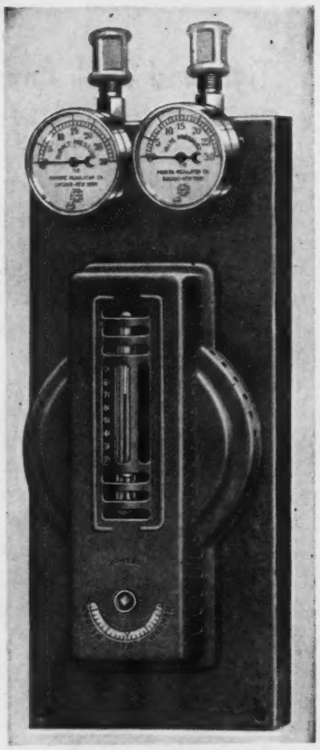

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# The Story of Cotton

*This is the thirteenth of a series of advertisements telling the story of cotton from its earliest cultivation in India and Peru to present times.*

## XIII. Transportation of the Crop

Cotton has played such an important part in the development of the various transportation systems of the American cotton belt that the story of cotton is not complete without some mention of them. In the early days, the crop was carried to market by wagons, drawn by horses, mules or oxen. The latter beasts were favorites, especially in new country. Their patience and their steadiness under all sorts of trying conditions made them particularly suitable for the stump dotted, muddy trails of the frontier.

As the vast Mississippi country was opened to cotton production, the famous Mississippi flatboat and, later, the equally well known river steamer were utilized to haul the crop to the great market at New Orleans. These were probably the most picturesque, colorful and romantic of all the different transportation systems ever in the service of King Cotton. The flatboats were manned by "river men" who were drawn from the roughest, toughest, and rowdiest elements of the frontier population. Their feats of eating, drinking, fighting and sheer derring-do are legendary in the South. The steamers ushered in an era of more gracious living, rising at times to heights of real magnificence. These were the days of the coon-jining roustabout, the dandy pilot, the rough voiced mate, and the smooth tongued river gambler. The steamboat was a social force as well as a means of transportation; it brought a glimpse of the great world to hundreds of small river villages, and its whistle around the bend presaged for the inland traveler an adventure of no mean proportions.

The railroads replaced the river steamer, and in the cotton belt they were for many years more or less directly dependent on cotton for the major portion of their revenues; it is doubtful that the great railroad developments in Texas would have at first been possible without the freight provided by the fleecy commodity.

The cotton crop passes from the field to the larger spot markets in the short space of three or four months. Transportation, via steamship, barge, railroads and trucks, is therefore a problem of the first magnitude, and the cotton industry owes no small debt to the other great industries which have assisted in its solution.


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Next, consider the slippage of the cone belt; the difference in tension between the empty and full bobbin due to the slight variation in the pressure of the paddle; and the difference in diameter as the bobbin builds up, owing to the strand being condensed more at the start of the set. It seems that "D. E." rejects the idea that pressure at the end of the presser pad exists.

Variation in speed between one frame and another will require a different cone and that different cottons and different hanks to give perfect tension will require different cones. You must have different cones for different makes of flyers.

I think the trouble experienced by "V. T." was in the speed of the frame. Because we have such men as Fay H. Martin and E. E. Blake to tell us that the strand occupies less space at the start of the set. The more the speed, the more the strand is condensed at the start of the set.

WASH (R. I.)

## Two Questions on Slashers

EDITOR COTTON:

Which is better in preparing a kettle of size: to start with a full kettle of water, adding all ingredients and then cooking, or to dissolve all the ingredients in a fractional amount of the total water necessary, then diluting with additional water to bring the mix up to the required gallonage after cooking?

Has it been found practicable to test the specific gravity in the solution in the size box for maintaining as near as possible a uniform density of the liquid? If so, what type of hydrometer is best suited for this purpose.

I would very much appreciate having discussion on these two questions by your readers in "HOW OTHER MEN MANAGE" In doing so, I hope they will give me the full details of their own practice, under their conditions, so I may use their methods as a guide.

CONTRIBUTOR NO, 6332.

## Taking Care of Material for Best Repair

EDITOR COTTON:

At our mill we take pride in doing practically everything according to system. Almost nothing of any consequence is undertaken in a haphazard manner. But the writer received a jolt one day when he discovered that something of importance in his department was being handled in a very slip-shod manner—but thereby hangs the tale.

One of our section men was out, one who is rarely ever absent from the job. A counter belt broke, as things have a habit of breaking down when some of the regular section men are out. And when the belt broke of course a number of machines were stopped. It was a rather small belt, put together with metal fasteners and not cemented. The man who had been put on the section began to look for the supplies to repair the belt—and they were finally found, after the overseer and the second hand joined in the search. but ten or fifteen minutes had been lost and each item was found in a separate place, the belt lacer, the handles for same, the lacing material and the rope for putting the belt on the pulley.

To prevent the recurrence of this lost time, temper and production we selected a place convenient to everyone concerned (in this case a drawer in a work bench) and put all the supplies and tools for repairing belts in this place. Of course it goes without saying that we have had no more trouble of the kind just described, and we are glad to pass the tip on to readers of COTTON who might be interested. (Before writing this letter your scribe checked up and found his belting repair material to be O. K., so this information is practical and not altogether theory!)

TEX (GA.)

## Why Different Tension Gears on Same Make of Fly Frame?

EDITOR COTTON:

The question arises very often as to why fly frames of the same make, side by side and on the same hank roving, sometimes require different size tension gears. This question has caused much discussion of late, and probably is not thoroughly clear to everyone as yet. It is a problem that is very difficult to solve without a practical knowledge and a thorough study of the varying conditions that exist throughout the mill. Furthermore, this problem does not lend itself to mathematical calculation, and the varying conditions that exist are not subject to the natural eye, which makes it all the more difficult to solve.

I was told once of an assistant superintendent who, just after he took over his duties, gave the overseer orders to have the same size tension gears put on all of his speeders that were running under the same conditions. The overseer informed him that they would not run that way. "They will run that way," the new man responded, so the orders were carried out and it was said that the speeder room was in a perfect mess.

The superintendent was called down to the scene and after investigating the situation he remarked that the assistant superintendent "knew too much".

So I will let this little incident be a warning to me and try not to "know too much", but I am not going to be a pessimist, and say that it cannot be done, because I believe that it can be done under certain circumstances, so I will be just like Andrew H. Brown and say, "It can and it can't—mostly can't." First, I am going to give some of the reasons why the same size tension gears cannot be run on all frames, side by side, with the same hank roving, and all other gearing being similar.

1. All belts are subject to more or less slip.
2. The reciprocating mechanism on one fly frame is more easily driven than that on another.
3. Old flyers do not exert the same pressure on the bobbins.
4. All cone belts may not be set to the specified distance from the end of the cones at the beginning of a new doff.
5. If uneven staple cotton is being run the draft-

ing efficiency is not the same on all leather top rolls.

6. Certain leather top rolls as a general rule are concave, which in turn will produce a heavier strand than those that have just been put in new.

7. There is never a perfect humidity throughout the speeder room.

8. A cross drive belt gives a more uniform speed than a straight drive belt.

9. There is always a variation in weight per yard in the slubber roving running in the speeder creels.

Now, of course, as I have admitted, it can be done if the defects I have mentioned are eliminated.

T. R. (N. C.)

## Tires of Discussion on Textile Graduate Versus Practical Man

**Asks "Wash" some rather intimate things and offers some WEAVING questions that we shall be glad to have you discuss . . . . . .**

EDITOR COTTON:

I have read with much interest the various articles by "WASH", and I think that we should be very thankful that we have such a capable contributor as he is. I have always had, and still have, a great deal of respect for this man; however, I do think it would be well for him to refrain from asking trick questions and get down to the every-day problems, omitting such topics as "The Textile Student Versus the Practical Man". I, for one, am fed up on this type of discussion, and I am sure that there are others who feel as I do about it.

I think that a lot of times "WASH" makes statements which he knows are wrong, but they are merely made to draw the other fellows out. This is wrong, and very misleading.

In going over some of "WASH'S" articles I'd say he is batting for 500 per cent. Try and keep it up, "WASH", don't lower it. Such statements as the following will lower your average: "Now I think most of the boys know what would happen on any slubber with a twist gear two teeth less than the standard twist". What would "WASH" say if a mill used four teeth less than the standard? The mill that is to get any place today is the mill that has an organization which is trying things and not taking too much for granted or trying to run the mill from a book.

"WASH" says he would not promote a textile school graduate. I wonder if there are any textile school graduates in "WASH'S" organization? I wonder if "WASH" would consent to telling us the exact size of his present organization; also the class of goods he is making?

It seems to me that carding has had more than its share of space during the past few months, and I am wondering if some of the readers of the "HOW OTHER MEN MANAGE" department, who are weavers, can't give us a little discussion on weaving subjects. I have a few simple questions which I shall submit merely with the idea of trying to get some of these weavers started.

*Question No. 1.* On a slasher, does the yarn receive more size when run slow than it does when run at a higher speed?

*Question No. 2.* In running rayon on the cotton system should the speed be lower than when running cotton?

*Question No. 3.* In winding rayon from cones or skeins what is the main item to observe?

*Question No. 4.* At the loom how can you determine if the rayon has been stretched?

As stated, these questions are merely asked to get some of the weavers into these discussions. Of course we would all be glad to have "WASH" draw up a list of weave-room questions for us. I know that he is qualified to do so.

CONTRIBUTOR NO. 6255.

## "D. E." Comes Back at "Wash", Answering His June Letter

EDITOR COTTON:

So it came to pass that a certain "D. E. (R. I.)", unwittingly aroused the fire within the breast of none other than our friend "WASH" by his remarks in the February 1934 issue of COTTON.

These flames arose very feebly in the exhibition of the old boy's letter of June 1934 in which he upbraids "D. E." for his ignorance, in addition to his "misleading capers". However, one cannot complain very much at any assertions or statements which come from another who claims over 40 years' experience in the mill business, so I choose to allow all insinuating remarks, which are, I am sure, not wanted in this department, to slide by unnoticed. But I cannot allow this assertion to pass, namely, that I am misleading my friends by some of my statements. If I am misleading them, then I am misleading myself, as these feeble attempts published in these columns are simply the outgrowth of my own thoughts and opinions and not derived from any correspondence courses or other technical books. I am also not in possession of a book of questions on textile subjects.

In one paragraph "WASH" resents the idea of being called the Baron Munchausen, the name that I gave him due to the fact that I thought it very appropriate to one whom I understood to have similar powers of "stretching" the imagination, as well as proclaiming himself practically the only one who really knows the why and wherefore of the mill business. However, let it go. Why waste space, because I do not resent being termed a false leader by "WASH" providing some of our other friends believe I am trying to be sincere. It is marvelous though, how one can raise another's ire, as in this case of "WASH", and the funny part of it is—of course I must see the funny part in frictional contact—our friend must dig up, as he terms it, old issues to quote some of my misdeeds.

Just now let me inform the reader that my purpose, as stated in previous letters, is to prove that "WASH" is not precise when asking questions. Hence the trickery. Take his first question from the De-

cember 1933 issue, namely, "The breaker lap is larger in diameter at one end, although the lap rack and drafts are in perfect condition; what causes the diameter of the lap to be larger at one end?" He must keep the reader guessing with his "little" problem, because we do not know until his answer is published in the June 1934 issue that he is using the breaker picker for a waste machine. A very antiquated method surely, in these days of progress.

The aforementioned answer, by the way, tells us that, "in the case of oil spraying [you see 'in the case', and this case was not mentioned in the first instance] or running stick waste through the opener, in the first case some of the oil will find its way to the upper end of the conical beater shaft, and a lot of stuff will collect where the stock enters the beater box. In the second case, the thread from the stick waste will collect in the same manner and cause the same evil. In other words, the sweep of the collected stock and threads force more stock to one side and even with a perfect draft through the picker, the most of the stock remains at the side'." Which? Well, well, and there is a man who claims 40 years of experience; who would not give us that extra information to work on for an answer.

Anyhow, I would like to ask "WASH" a question: When you have to feed your waste directly to an opener or breaker picker, do you allow it to be dumped into the hopper in any haphazard way, or is common sense applied by feeding gradually? Even in the first instance I fail to see where the result would be a tapered lap or one with one end larger than the other. The result would surely be a stoppage of the machine and maybe one or two broken gears, if the waste were fed heavy enough. By the latter and correct method of feeding waste in this pre-historic way, you would get laps with both ends of practically the same diameter, that is, as "WASH" mentions, if your drafts and lap racks are in proper order. I know this because I have done it. Therefore, believe this humble misleader of your boys.

Of course "WASH" states that I was wrong because it wasn't a trick question but the voice of experience. I say it was a misleading question. How about it, "A. T. G.?"

So the voice of experience fails according to his answer, to the question: "On the drawing frames some days we have a tight web between the front roll and calender rolls. [Where else could it be, pray?] The next day they run slack. What causes this?"

I believe my answer at one time was, that I never experienced this variation—true, yes, because we have controlled humidity. And, by the way, had I known about "WASH'S" waste ideas, I would have also stated that we have a controlled waste system. Hence, we do not have that nuisance, and I also fail to understand why any other good man should be bothered with slack and tight webs on drawings through improper mixing of waste. Of course "WASH" states that this happens in knitting mills and mills running colored stock. Well I have run colored stock for years and I know how to keep webs at a proper tension without having to change gears every day. My experience tells me, and I know oth-

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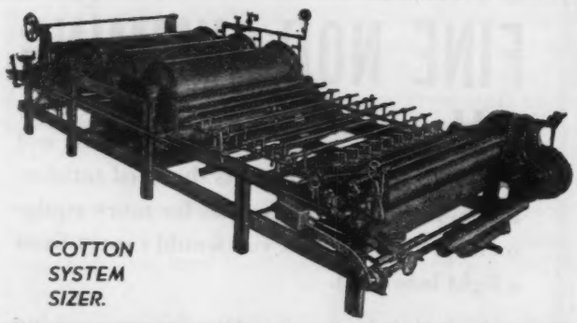

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2—Gives maximum production with 1½ to 2 lbs. steam pressure.

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ers will agree, that the less tension gears are changed the better for everything concerning the future roving.

Now, what am I coming to? Oh, in the eleventh paragraph of "WASH'S" June 1934 letter he states that I make fun of the art of drafting. Hence he will change my mind, and in the next paragraph he tries to do it, but fails. However, he advises the reader to "set the second line rolls of the draw frame ⅛-inch over the proper setting; in other words, set the second line ⅛-inch away from the first line. Now run the frame and it will be found that the web will be slacker." Then, in short, if you move the second line ¼-inch closer and start the frame again the slackness will disappear and there will be a tension on the web; and that is the art of drafting.

One question, "WASH", please, although you insinuate that my reasoning is lacking, suppose your second line of rolls are already set up to the first line tight, as is the case in many mills, how will you set them ¼-inch closer to overcome the slackness as stated in the aforementioned operation? Is there any reasoning in "WASH'S" experiment, I wonder? Of course I am expecting an answer saying that my rolls would be wrongly set, as I state, may be the case, and, nevertheless, there is truth in the statement.

Now "WASH", please straighten out that drafting art of yours which it has taken years of experience to know the exact amount to move the rolls to create the "slight" change desired in the web. Before this exhibition of his imagination in paragraph No. 9, he gives yours truly a slam about it being a mistake to have tension gears on hand. Why have tension gears if we can get the desired "slight" change by setting the drawing rolls?

Well, dear reader, I have tried this experiment as advised by "WASH", but whatever difference he noticed as stated, I failed to see any noticeable difference in the tension. Of course, my second line of rolls were not set up tight to the front line, still, I want to know how the art of drafting would work in case they were, as you know if you move rolls ⅛-inch away from the front line, that means there is only ⅛-inch latitude, so how can they be moved back ¼-inch? Maybe a little slip or miscalculation on "WASH'S" part.

Now here is a statement which you fellows must have noticed already. Take a look at paragraph No. 12 of his letter, page 104, in the June 1934 issue. First, he quotes my statement as follows:

"If one tooth of tension is too great a change in most cases, then 'WASH' should know that the tension does not require any change; neither does any frictional contact, as he terms it, need to be increased."

Now "WASH" says the same statement could be made about the draft. "Is it not a fact that a tooth of draft is too much in most cases, so we change the back roll gear instead, which is larger?" So on our friend "WASH'S" draw frames there are not any such accessories as crown gears, but when he requires one-half tooth change he takes out the back roll gear. Wonderful! Maybe that voice of experience lacks

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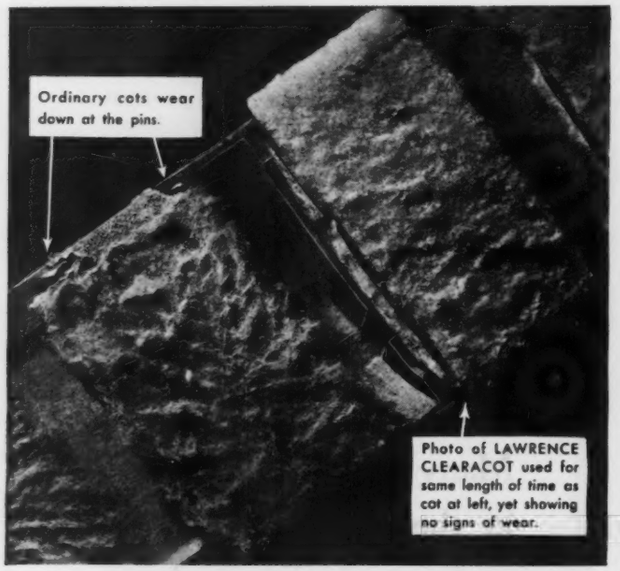
Ordinary cots wear down at the pins.
Photo of LAWRENCE CLEARACOT used for same length of time as cot at left, yet showing no signs of wear.

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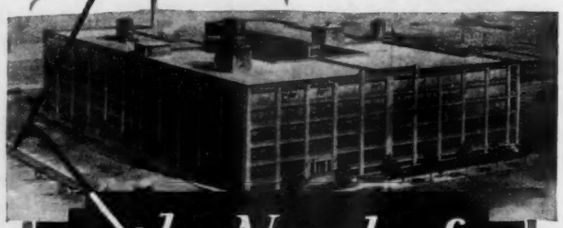

## *the Need of These Large Plants*

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the necessary volume. However, I think a crown gear would be the easiest change, and, of course, give the desired result. But how many men bother about half-tooth changes in the roll draft gearing when they can overcome a slight error with a change of tension and, mind you, without stretching or sagging the web. True again, because I have done this when it was necessary, which was very seldom.

Why "WASH" takes the opportunity to ask the reader to get a slant as he calls it, on my reasoning, as stated in Paragraph 14—I am quoting from the June article—where he repeats my statement, which was: "In one portion of his November letter our friend 'WASH' contradicts himself in telling us that the figured draft of any machine is never attained, still he gives figures to prove [mind you, to prove] that the draft between the front rolls and the calender rolls of a draw frame is less than 1.00." Then he asks, "Is this not a fine example of reasoning?" I fail to notice any shortage of reasoning on my part. First of all, his figures give the assurance that the draft between said points is less than 1.00. Now he hasn't any method of finding the actual draft, so how does he know that the draft—the correct draft—is less than 1.00. That is what "WASH" claims. However, in his sixteenth paragraph he tries to show that I do not know much about the drafting and frictional contacts. Let it suffice, here, to say that I know enough to use common sense in drafting.

However, dwelling upon his statements in the aforementioned paragraph, I must confess I used a little trick of my own and my friend seems to have fallen for it.

The detail of my quotations as repeated by "WASH" is as follows:

"He ['WASH'] gives this gear as having only 30 teeth, whereas, I think if he would increase that to 31 [Of course I doubted the use of the 30-tooth gear] or 32 for leather rolls, he would probably find his draft, as figured by gearing, would be over 1.00, but if actual conditions force him to use the 32 gear, I must say he is running a very, very light sliver."

There was the trick. I reversed the actual fact at the risk of getting a slam from "WASH".

Now, supposing "WASH'S" drawing webs become slack enough to necessitate a change of tension? This is possible, especially if you have bad waste mixtures with which to contend, and "WASH" knows that tension gears are necessary despite that draft roll experiment of his own. Well, undoubtedly "WASH" would have to increase his tension by one tooth at least. Now I am curious to know whether his draft between the front drawing roll and the calenders would be less than 1.00 or otherwise. If it is less than 1.00 then please give us a little information as to the make of frames on which this condition exists. By the way, I am apt to think that "WASH", regardless of his 40 years experience, has not yet heard of the two tension drafts existing on some draw frames and one on all makes, and both are over 1.00.

Proceeding to "WASH'S" sixteenth paragraph, he classes me with "A. T. G.", for which I really must thank him. Of course I asked him to size his draw-


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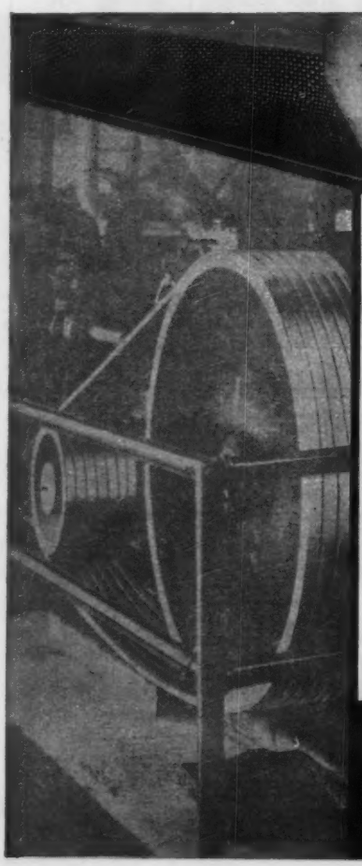
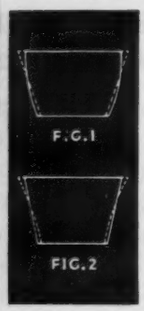


*Here's a Real*
## Dollar Saver

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ing after making a change of tension gear, not calender gear, as "WASH" states, to prove there was draft at this point. By so doing, I intended to convince "WASH" of the fact that the draft is less than 1.00. However, he claims that I am wrong again, because, as he states, there is no draft at that point. We just stretch the web. But get this, and please notice the smouldering embers of the "fire". "WASH" says in part of paragraph 16, "That is why when running a heavy sliver [please note, a heavy sliver] you have a draft of less than 1.00 in order to cause slack."

So we need more slack when running a very heavy sliver than we do when running a light one! Well, I will leave it to the reader. Think it over.

So "WASH" cannot understand why I commend "A. T. G." Well, if you must know, "A. T. G.'s" letters convinced me that they came from one who was sincere in every way, and I am hoping to see more of his opinions and common sense displayed in this department. How about it, old fellow?

"WASH" gives me four questions in his June article; two of these I must ignore, because they relate to that so-called frictional contact which he says exists, but never has proved that such is the case.

However, the first question asks, "Will the worn leather strips around the cage allow enough stock to pass on to the dust room that will make the lap of a greater diameter at one end?"

That, of course, is a repetition of a statement which I think "A. T. G." made a short time ago. Yes, "WASH", if these leathers were badly worn, enough stock would get by to the dust room, thus making the lap a little smaller on the end. Mind you, a little smaller on the end, but probably not sufficient to notice it, but actually a little smaller.

Now the third question, "On any English builder, can the taper be changed without changing the taper gear?"

Well, I have not seen an English builder for years, but I guess I can do that trick. How about measuring to the center of the bobbin used on the particular frame and marking it? Then raise or run the carriage until the center of the presser pad, that is the presser pad eye, co-incides with the mark made on the bobbin. See that the short rack or poker bar is perfectly level. The traverse of this bar should be shortened or lengthened according to requirements. To increase the taper, shorten the bar. Lastly, loosen the latch screws to run the carriage and set for length of lift.

Now we come to the "ancient history" as the old boy calls it, and as the first thing on the program he quotes an item from an article by this writer in the April 1928 issue of COTTON, namely, "As I said before I cannot understand what this pressure of the presser pad has to do with altering in any way the diameter of the roving."

Anything wrong with that, may I ask? But to assure himself against any contradiction or any explanation, he quotes a report on a certain meeting of the National Association of Cotton Manufacturers which took place on September 29-30, 1908, and informs us that Mr. Fay Hamlin Martin said: "As a matter of fact, the strand as it is laid upon the bob-


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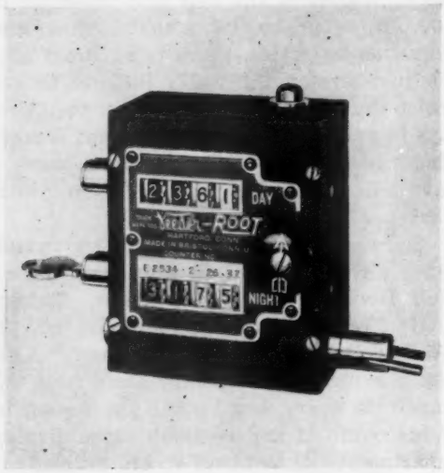


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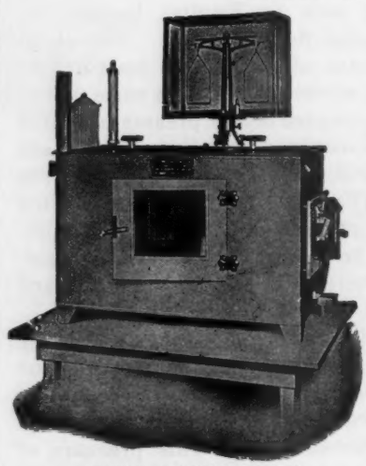

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bin is of less diameter, or occupies less space at the beginning than it does at the finish of the bobbin. The increase is very gradual and is caused by the pressure of the presser condensing the strand."

Then because I fail to agree with all this "WASH" says that I am misleading the boys. However, Mr. Martin, according to the report compared with "WASH" on this matter, that is, he told those boys about some theory but neglected to prove it. Those boys at the meeting may have believed the theory or not. In regard to myself, I must ask "WASH" what has the decrease of the revolutions of the bobbins—the bobbin-lead system—got to do with this matter, and, also may I ask, in the flyer lead system is this gradual condensation of the roving reversed? Seems logical, doesn't it; or, maybe the presser pad does not play any part whatever in the case of the flyer-lead system.

Now, how do our friends know that this said condition exists, or is it another stretch of imagination; I mean the ability of the presser pad to condense the strand of roving. You see I am trying to use my reason by asking for proof, and my reason for doing so is that I have always understood that the surface speeds of the bobbins, as calculated from excess revolutions of same, must always remain equal. So why should the presser pad condense the strand at one point any more than another? The spindle speed is constant. Explain this, "WASH", if you can, because I guess I am from Missouri.

Toward the end of his June article, "WASH" quotes my question wherein I ask him how he figures that the metallic rolls on draw frames only mesh at each end. I do hope "WASH" is not very serious about that theory. Now he is trying to tell us that drafting is only accomplished by the ends of the metallic rolls. So now we have learned that there is a slight curvature from each end of the rolls to the centers of same and this accomplished the crimping. Get what he states in the last sentence of that paragraph thus: "Metallic rolls ride on collars and there is always space in the center of the two rolls, so how can they draw."

Well, now, I must turn to the information given by the Saco-Lowell Shops. Here is what they tell us: "The increase in product from the latest style metallic rolls working at a standard speed is due to the meshing of the flutes." Note they do not tell us anything about the ends of the flutes, and these people ought to know. Furthermore, we are informed that the amount of this increase is as if the diameter of ordinary rolls had been enlarged from 1⅜-inch to 1 9/10-inch. That is the effective diameter. Now may I ask, do we have to take this statement as correct or believe "WASH", that rolls have two diameters, one diameter at the ends and less in the center where the crimping is done? Now I am wondering how this crimping is done, or maybe frictional contact comes into play.

Well, I'll string along with Saco-Lowell anyway, as their information suits. Here is an example to prove that "WASH" is wrong about the space in the center of the rolls, just a common everyday occurrence. Supposing one of the flutes picks up a small piece of hard foreign matter. As that identical flute continually gears with its companion flute a slight

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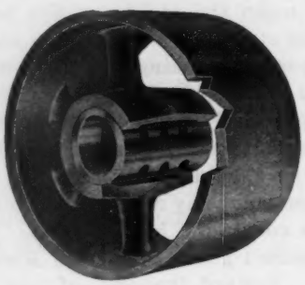

# MOCCASIN BUSHINGS

# We Sell Our Brushes On QUALITY—Not PRICE!

Without quality there can be no repeat business . . . it's repeat business that counts.

Our prices are no higher than other reputable brush manufacturers.

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# KENWOOD

KENWOOD WOOL PRODUCTS REG. U.S. PAT. OFF.

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# NO-GLARE

No-Glare Is Like an Umbrella Over Your Plant

A sky-blue liquid which when painted over windows or skylights keeps out all the glare, a lot of the heat and admits 94% of the light.

**The Skybryte Co.**

1929 E. 19th St. Cleveland, Ohio

ATLANTA HARNESS - REEDS FRAMES - HEDDLES ATLANTA HARNESS & REED MFG. CO. ATLANTA, GEORGIA

space between the rolls' surface is created, is it not? What happens? Well, I guess I don't have to illustrate the result. Anyway, we get bad drafting; do we not? In other words, cut sliver. A simple illustration, but nevertheless it shows that space does not usually exist between the roll surfaces as stated by "WASH".

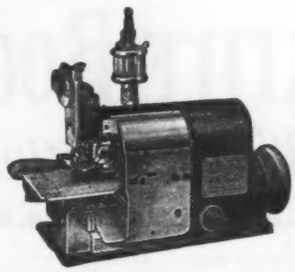
"WASH" again refers to a more recent article of mine which appeared in January 1931, wherein I give a statement that in my opinion I believe that the use of the stripping brush robs the wire of some of its sharpness. I still think that the use of the old time stripping brush affects the edge of the carding surface and this does not mean merely the stripping wire itself being the cause of the damage. No. When a card is being stripped by the brush in the proper way it instantly becomes loaded on one or two revolutions of the cylinder, then you have a matted surface of trash beating against delicately ground wire points. By the way, probably some of our friends have seen a perfectly ground wire point through a microscope. Have you ever noticed those fine bristles or whiskers sticking out from the wire? Well, think of the effect of the matted surface of strippings beating against them and compare this effect with the vacuum stripping system where the stock or waste is taken away directly after the brush touches the wire in either case of cylinder and doffer. I am speaking of the Saco-Lowell system now.

"WASH" quotes "CARDER (MASS.)" as being dead right by this statement that the wire on cards stays sharp as long with vacuum stripping as with the brush provided both are properly set. Let me remind "WASH" that when Dronsfield's assure you that a setting of ⅛-inch deep will not injure the wire, I believe they have in mind that too deep a setting will injure the foundation of the fillet. Therefore, let it be known that when I, or any other advocate of the vacuum stripper, claims that the old method injures the wire we mean that damage is done to the carding surface.

As a last jab, "WASH" uses a little sarcasm in digging up another supposedly misleading statement of mine which appeared in the November 1930 issue. I recall "CONTRIBUTOR No. 4736" asking for a solution for hard ends on the intermediates, and I informed him that I thought he had too much twist in his slubber roving. I told him to change two teeth on the slack side. Mind you, I had in truth remedied a similar case of our own and offered advice to another who I thought might do the same. This was in actual practice, regardless of standards as termed by "WASH", who should know that sometimes we have to depart from a standard on this and that in order to overcome many card room troubles, and theories do not count for very much.

As a parting word, I must remind the reader that "WASH" kindly informs the boys that I tell them nothing new, still some time ago when "WASH" was rebuffed for using old stuff he informed us that good stuff is old stuff, and as he of course only knows the good stuff then the same compliment should go for me. Therefore, I have answered his challenge to answer his article of June 1934, and also his "scathing comments."

D. E. (R. I.)

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HIGH SPEED TRIMMING AND OVERSEAMING OVEREDGING AND SHELL STITCH MACHINES

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60,000 ATWOOD SPINDLES ARE TWISTING RAYON AT BURLINGTON MILLS

Our Monarch RAYON Twister is made FOR RAYON. It handles the most delicate as well as the heaviest synthetic fibres. It produces high quality yarns at low costs. Monarch Rayon Twisters are OILLESS, removing all threat of oil stains.

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*Sales Offices: New York Wilkes Barre, Pa. Stonington, Conn. Charlotte, N. C. Los Angeles, Cal.*
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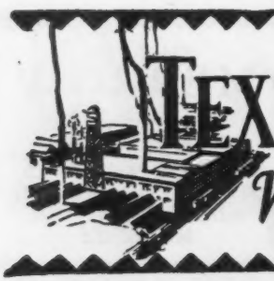


# TEXTILE BOOKLETS *Worth Writing For!*

*The booklets or catalogs briefly mentioned below may be obtained by any readers of COTTON who will write to the Company issuing them or to COTTON, Grant Bldg., Atlanta, Ga.*

**2. Pepperell Equipment**—10 page illustrated booklet showing High Speed Warping from cones as adopted by Pepperell Manufacturing Company after thorough experiments, installation and product photographs. Issued by Universal Winding Company, Boston, Mass.

**10. Leathers, Textile**—Booklet No. 101, 48 pages, illustrated. Showing "Bondaron" Check Straps—Lug Straps—Harness Straps—Pickers—Belting, both round and flat, etc. Horsepower tables and other interesting information. By Charles Bond Company, 617 Arch Street, Philadelphia, Pa.

**11. Whitinsville Rings**—16 page illustrated booklet. describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co., Whitinsville, Mass.

**15. The Powers System of Thermostatic Control—"Slasher room is Bottle-Neck of Textile Mill."** 18 page illustrated booklet showing importance of proper treatment of cloth in slasher room and advantages of Thermostat over hand control. Also room temperature control illustrations. Issued by Powers Regulator Co., 2739 Greenview Ave., Chicago, Ill.

**21. Warp Sizing and Composition of Cotton**—Folder containing reprints of articles carried by textile publications of interest to progressive mill superintendents. By Seydel-Wooley Co., 748 Rice St., Atlanta, Ga.

**23. Practice of Rayon Sizing in American Mills, Raygomm, Lakoe Gum**—Three booklets on products for sizing and finishing rayon and other textiles, presented by Stein, Hall & Co., Inc., 285 Madison Ave., New York, N. Y.

**25. "Lupogum" and "Monopole Oil"**—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

**28. Akron Belting**—Practical Rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

**29. Continuous Card Stripper**—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

**30. Lubrication of Textile Machinery**—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

**38. Sleaziness in Full Fashioned Knitting**—Illustrated survey with samples of fabric showing causes of sleaziness and methods to be employed in eliminating it.—By Textile Machine Works, Reading, Pa. (This company also issues parts catalog for Reading full fashioned machines with general information on subject of full fashioned knitting.)

**62. Rubber Products for the Textile Industry**—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan Inc., Passaic, N. J.

**63. S-W Paint Standardization Plan**—valuable booklet telling how protective coatings can effect economies in plant operation and maintenance, describing how each surface is finished to best meet its specific needs, giving ideal lighting and sanitary conditions and economies in increased production. Sherwin-Williams Co., 601 Canal Rd., Cleveland, Ohio.

**64. Efficiency and Performance of SKF Roller Bearing Spindles**—A twelve page booklet showing the advantages in power consumption, increased production, savings in lubrication, increased yarn breakage strength to be secured through roller bearing spindles. SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

**65. Why Cooper Hewitt Light is Better Than Daylight**—A 16 page booklet explaining in detail the importance of good lighting and the necessity of proper quality as well as proper quantity of light. General Elec. Vapor Lamp Co., Hoboken, N. J.

**66. Dronsfield's Patent Portable Auto-Feed Needle Point Grinder No. 176**—describing a new departure in card grinding—John Hetherington & Sons, Inc., 250 Devonshire St., Boston, Mass.

**72. The Merrow Butted Seam**—A 16-page booklet defining and illustrating the Butted seam, describing its properties and outlining some of the advantages to be gained by its use in textile fabrics. The Merrow Machine Co., Hartford. Conn.

**77. Bulletin S 200**—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages, and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

**78. Booklet L 1289 A—Loom Motors and Control**—giving details of the low installation, operating and maintenance cost of Westinghouse Loom Motors. Westinghouse Electric & Manufacturing Company, Room 2 N, East Pittsburgh, Pa.

**88. Dayton Cog Belt Catalog**—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept., C-11, Dayton, Ohio.

**90. Atwood Booklet**—Describing Atwood Winders, twisters, wire swifts, and various types of feed rolls—useful to throwsters interested in learning the principal features of various Atwood machines. Atwood Machine Co., Stonington, Conn.

**91. Illustrated Buyers' Guide and Catalogue**—Of interest to every dyehouse executive, not only telling what dyehouse equipment is available in Monel Metal but also where to get it. The International Nickel Co., Inc., 67 Wall St., New York, N. Y.

**93. Metso** — Describing this industrial cleanser which has wide use in industrial cleaning of metals, floors, etc., and is used in kier boiling, silk and rayon degumming. Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.

**94. New Development by Onyx** — Eight page booklet describing and giving uses of new developments in sulphonated aliphatic compounds . . . called Aliphatic Ester Sulphate and Glyceryl Sulphates. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

**97. Suggestions For The Modern Silk and Rayon Throwster** — describing the various uses for Laurel Brand Products and giving valuable suggestions in silk-soaking, degumming, dyeing, sizing and finishing. Laurel Soap Mfg. Co., Inc., 2600 East Tioga St., Philadelphia, Pa.

**100. Bulletin 174. Controlling, Recording, Indicating Instruments for Temperatures, Pressures, Humidity, Flow.** 40 page booklet illustrating with installation photographs the uses and advantages of instruments built to meet definite requirements. Foxboro Co., Foxboro, Mass.

**104. Warp Sizing.** National Oil Products Co., Harrison, N. J.

**105. Mildew Prevention.** National Oil Products Co., Harrison, N. J.

**106. Cotton System Warp Sizing on Multiple Cylinder Machines**—a folder showing the advantages of this type of machine in making warps of acetate and other synthetic yarns and spun silk — Charles B. Johnson, Paterson, N. J.

**107. Complete Information on Alemite Lubrication.** Showing how costs can be reduced through power lubrication. Alemite Corp., 1828 Diversey Blvd., Chicago, Ill.

**110. 3-In-One for Industrial Uses**—showing the many industrial uses and advantages of this oil. Three-In-One Oil Co., 70 Varick St., New York, N. Y.

**114. Denman Parts for All Makes of Looms**—showing drawings and dimensions of Denman pickers, hold-ups, bumpers, and bunters made of fabric and vulcanized rubber. Denman Tire & Rubber Co., Warren, Ohio.

**115. How to Cut Cloth Room Costs with Automatic Picking Machines and Improved Inspecting Machines**—Hermas Machine Company, Walburton Ave., Hawthorne, N. J.

**117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames**—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Roller Bearing Co., P. O. Box 476, Newark, N. J.

**118. Cotton Picking, Opening and Cleaning Machinery, Cards, Combers, Roving, Drawing, Spinning, Twisting, Rings, Worsted Machinery and Woolen Machinery** — Pamphlets are issued on each of the individual machines. Will be sent to subscribers who make requests on the letterhead of the mill and indicate special pamphlets desired. Whitin Machine Works, Whitinsville, Mass.

**119. The World's Finest Sewing Machines**—a condensed catalog giving details of the various Willcox & Gibbs sewing machines. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York, N. Y.

**120. Goodyear Mechanical Rubber Goods Catalog**—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

**121. Engineered Packages for the Textile, Dry-Goods and Apparel Industries**—Showing the savings to be made through the use of properly engineered packages of corrugated fibre in the shipping of yarn, woven and knitted products. Hinde & Dauch Paper Co., Sandusky, Ohio.

**122. Water Filters and Filtration Equipment**—Containing complete description of the chemical processes involved in the coagulation and precipitation of foreign matter, the removal of iron, oil, manganese from water and the production of clean water suitable for the textile industry, together with tables of specifications for standard filters, and information showing the extra profits to be made by the mill through reduction in costs and process difficulties, through removal of undesirable impurities in water. Permutit Company, 330 W. 42nd Street, New York, N. Y.

**123. An Outline of History for Anti-Friction Bearings**—a treatise outling the development of anti-friction bearings from their earliest appearance in history to their present important position in industry. Fafnir Bearing Company, New Britain, Conn.

**125. More Light with Lasting Cleanliness**—a booklet pointing out the many advantages of white paint and the qualities to be looked for to get the greatest value in such paint. U. S. Gutta Percha Paint Company, Providence, R. I.

**129. The Care of Leather Belts** — **Wall Charts**—This 24" x 36" wall chart tells how to dress a belt, how to splice a belt, how to make a good cemented joint, how to figure a belt's capacity, how to find the speed of any pulley and one hundred and one other things about installing and operating belts. Contains horsepower tables and charts showing how to install a belt on any type of drive. E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

**135. The Pick Method of Weaver Wage Payment**—A manual of practical information describing methods to be followed in using Pick Counters; suggested forms, and tables included. Durant Manufacturing Co., 1932 No. Buffum St., Milwaukee, Wis.

**138. Constant-Level Oilers**—Booklet describing oilers which maintain correct oil level at all times, preventing burning out of motors and bearings. Gits Bros. Mfg. Co., 1851 S. Kilbourne Ave., Chicago, Ill

**139. Textile Detergents—Theory of the use of alkalis and control of pH.**—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergents in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

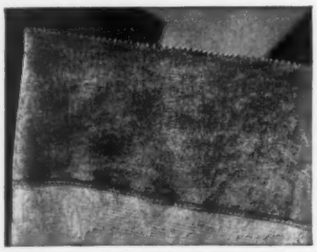
**140. Textile Machinery—Improvements in Design and Methods of Lubrication.** A discussion of the problem of lubrication of textile equipment, covering operating conditions and factors affecting and affected by lubrication. Card Room Operations, Twisting and Spinning Machines, Silk Throwing, Looms, Knitting Machines, etc., covered. Available in copy of June 1934 issue of "Lubrication." The Texas Company, 135 E. 42nd St., New York City.

# KNITTING SECTION

## *Improvements...* from Top to Toe to Heel, with the K Spiral Gussetoe Machine

● Such an achievement in the making of really fine hose deserves the attention of all manufacturers who make hose—and of all women who buy them.

To the mill—*profits.* To the woman—*savings.* And to both—satisfaction in a high quality product that passes the most exacting tests of excellence. Here are the exclusive features of this sheer hose made on the *K Spiral Gussetoe Machine.* They are improvements that *create* sales.



**THE WELT** — *With real elasticity! Inches more of give; fits the small or large leg. And construction is automatic.*

**THE TOE** — *The "Gussetoe"; an actual gusset knitted in when the stocking is made. No seam to mar the smoothness. Real "depth" to accommodate the toes.*

**THE HEEL** — *The square heel so-called because of the right angle stitches. They distribute the strain evenly. The size and shape of this new heel are correct and permanent, because they are determined by the knitting (not the boarding).*

ESTABLISHED 1865

In the making of full-fashioned stockings, the speed of the work is governed by the machine; the quality of the work is governed by the needles. That we are America's largest producers of Spring-Beard Needles, and that nearly all manufacturers of fine quality full-fashioned stockings are standardized on Royersford Needles is a tribute to unvarying quality.

The prescription for better knitting

NRA

Seam + Weave Inc.
366 BROADWAY, NEW YORK, N. Y.

# "Ringless" Patents Granted and Licenses Issued to Mills

THE Southern Hosiery Manufacturers' Association was prompt to communicate with the Textile Patents Association requesting information in relation to the licensing of mills to manufacture ringless full-fashioned stockings on a royalty basis, under patent 1969307, which was issued on August 7 to Charles A. Kaufman of Julius Kayser & Co. This information was desired in behalf of members of the Association. William R. Smith, vice president of the Textile Patents Corporation, states that applications from manufacturers in the South for license are relatively in as great number as from northern fields.

While plans for administering the functions of the Textile Patents Corporation were believed to have been completed after a number of conferences of the manufacturers originally interested and steadfastly co-operating in the work of formally introducing ringless full-fashioned stockings for Fall in accordance with protective measures which had been considered in many meetings, obstacles arose which made it impossible to supply specific information to the Southern Hosiery Manufacturers Association and manufacturers applying individually for it.

The South seems to have manifested deep interest in the Kaufman patent from the first. Two of the pioneers in the development of the patent and plans for operating under it are southern manufacturers, and Mr. Kaufman, the inventor, operated a small seamless hosiery mill for a time in New Orleans, La., selling the establishment around six years ago when he joined the Julius Kayser company. It is related that his father was the founder of one of the oldest department stores in the South, that of the Charles A. Kaufman Co. Thus is given a southern flavor to the struggle of the present Charles A. Kaufman for a patent covering what is conceded by many to be the most important invention in recent years for a fundamental process in the production of women's full-fashioned stockings.

One of the obstacles to getting the machinery of the Textile Patents Corporation functioning smoothly was a conflict of interests represented by manufacturers selling their production under their widely known brands, and those who employ no trademark. This necessitated careful consideration of the matter of price, in reference to which, it was set forth in a somewhat recent official statement, that "The owner of the patent fixes, through the office of the Textile Patents Corporation, the minimum selling prices of ringless hosiery made in accordance with the invention."

While the price question was being threshed out, territorial difficulties were injected into the situation with which the patents corporation had been wrestling for months. It was believed late in August by those speaking authoritatively for the corporation that by the first week in September all the wrinkles in the corporation's plans would be ironed out.

Interest in the ringless stocking was manifest in more ways than one, department stores and buying syndicates requesting a complete list of licensees clothed with a legitimate right to manufacture ringless stockings. This information was withheld for the time. A form of agreement under which contracts for manufacturing on a royalty basis would be executed had not at that time been formulated to the satisfaction of all interests then directly concerned. There then remained another important question to be disposed of before all of the cogs in the wheels of the patent corporation's machinery for fulfilling its voluntary obligations to manufacturer, jobber, retailer and consumer had been put in place. There had to be whipped into shape a proper promotional campaign, for the patents corporation intends that its licensees shall be protected and that there is to be safeguarding of the interests of the consuming public.

It has been a question among members of the corporation whether to permit manufacturers to sell their ringless stockings in the gray, as has been practiced widely in relation to the conventional types of stockings, with the result, it appeared, that a great deal of full-fashioned hosiery was bought in the gray by distributors, who had it dyed and finished under severely competitive terms in recent months. It seems evident the Textile Patents Corporation, controlling all rights under the Kaufman patent, intends to profit by the mistakes of the past in the full-fashioned industry.

Outstanding in the regulatory provisions of the proposed agreement under which manufacturers are to be licensed to manufacture ringless stockings on a royalty basis is a clean cut definition of what is implied by the term "wholesaler". All chain stores, chain store buying groups, retail buying groups, resident buying agencies and buying syndicates are to be classified as retailers. This, it is pointed out, applies to the Associated Merchandising Corporation, commonly referred to alphabetically, as the AMC, which comprises some of the leading department stores.

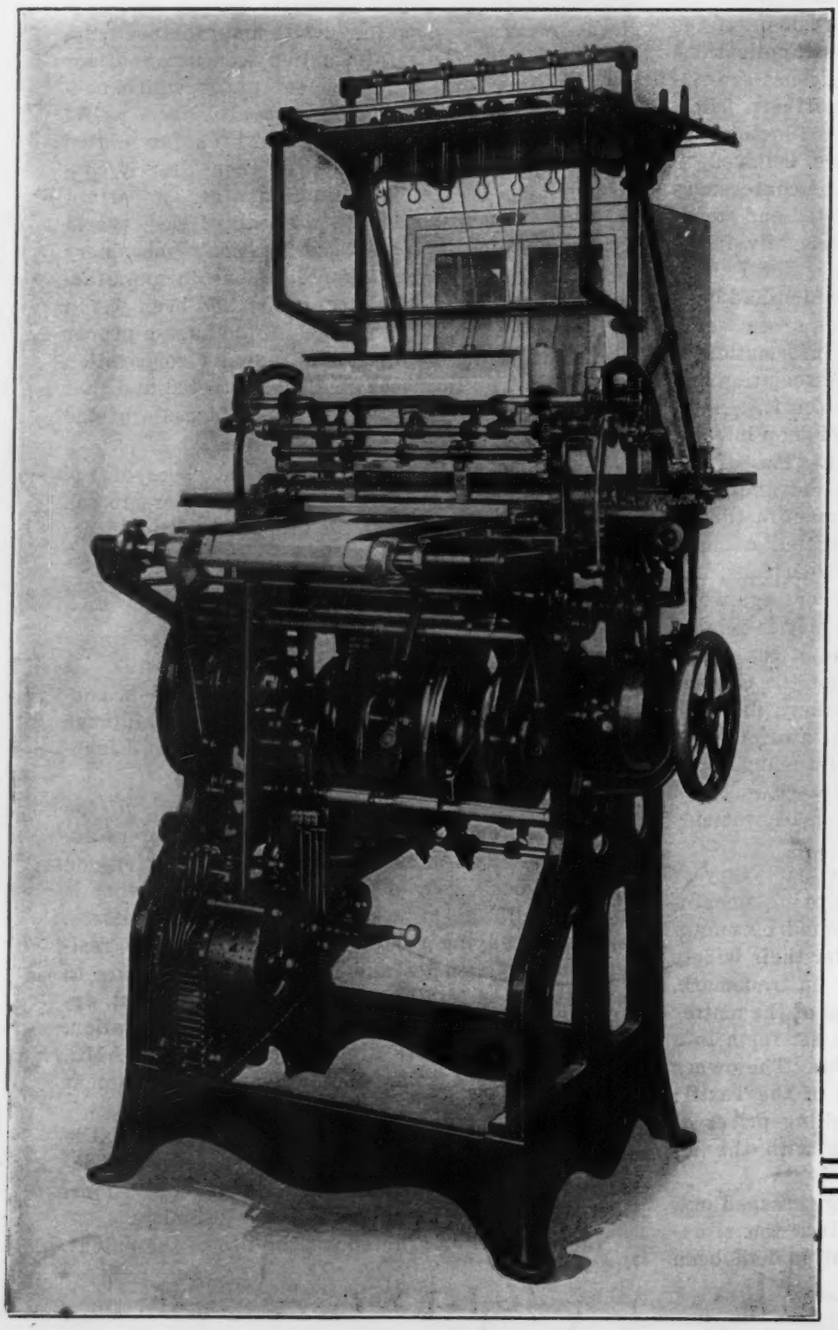
Phases of the protective program of the Textile Patents Corporation which have been definitely determined are embraced in the following provisions, as stated by Vice President William R. Smith:

License will be granted for the life of the patent, No. 1969307.

# Perhaps you can use this 20% . . . .

WILDMAN
THE WORLD'S STANDARD

## Right Now



WILDMAN'S new yarn container saves ONE-FIFTH in floor space! Does its job perfectly . . . keeps bobbins in plain sight at all times . . . sliding rack assures easy threading . . . and needs less room.

That's good news! *Five* Wildman Single Head Full-Fashioned Knitting Machines in the *same* space where *Four* stood before. Or—a clear saving of 20% in floor space available for some other purpose.

*The*
**WILDMAN**
SINGLE HEAD
*Full-Fashioned*
*Hosiery*
*Machine*

●

*Literature on Request*
WILDMAN MFG. CO.
*Full-Fashioned Division*
NORRISTOWN
PA.

Payment of royalties will date from the date of the issue of the patent, August 7, 1934.

A royalty of ten cents per dozen will be charged, and royalty fees are to be paid quarterly.

Licensees are to have the advantage of all improvements, without payment of additional royalty.

Subsidiary companies are included with the parent company in the granting of licenses.

All licensees will place on each stocking the patent number and the serial number of the licensee, to be supplied by the Textile Patents Corporation.

All manufacturers licensed to produce ringless hosiery under the Kaufman patent will supply the Textile Patents Corporation with samples of all of their styles of ringless stockings which they will offer for sale, these samples to be subject to approval by the patents corporation, such approval to be "in writing".

The Textile Patents Corporation will protect licensees against suits against them for alleged infringement, besides prosecuting infringements, for the protection of the licensees.

A minimum price will be established which will be regarded justifiable under present market conditions and satisfactory to the owner of the patent. Changes in minimum prices may be made from time to time, according to existing market conditions.

Licenses will be issued according to consumer demand for ringless hosiery, so as to eliminate overproduction, this provision, it is stated, "necessitating the refusal of licenses to a number of mills".

There will be established no minimum price for irregulars properly classified as such.

First quality ringless stockings may not be sold as irregulars.

Licensees will have the right to terminate an agreement at stated intervals, without assigning any reason whatsoever.

It is specifically stated that "the original mills co-operating with Attorney Smith and backing the original program, and who will participate in the financial returns, thereby giving full support, are as follows:

Apex Hosiery Co., Philadelphia.
Berkshire Knitting Mills, Reading, Pa.
Greensboro Full Fashioned Hosiery Mills, Inc., Greensboro, N. C.
Julius Kayser & Co., New York.
The Meinig Hosiery Co., Reading, Pa.
Mock, Judson, Voehringer Co., Inc., Greensboro, N. C.
Oakbrook Hosiery Mills."

## First Claims in Patents for Two Types of Ringless Hosiery.

**Charles A. Kaufman patent No. 1969307**
**for Ringless Full-Fashioned Hosiery**

A full-fashioned selvedged silk stocking composed throughout a substantial portion thereof of yarns of natural silk of substantially the same color and character, said stocking being of a weight in which so-called horizontal streaks, bands or light and heavy shade characteristics can ordinarily be observed, as for example in a substantially translucent stocking, said portion of the stocking being formed of at least three separate yarns of natural silk, each laid for a single course only until the entire series of said separate yarns of natural silk has been so laid; the said yarns being similarly laid in repetition each for a single course only throughout said substantial portion of the length of the stocking, whereby the inevitable inequalities in different portions of the same yarn of natural silk are diffused and distributed, and said inequalities are all blended by the said interposition of single courses of all the yarns so that the so-called horizontal streaks or bands or light and heavy shade characteristics are substantially eliminated.

**Paul Krenkel Patent No. 343691**
**for Ringless Seamless Type Hosiery**

A seamless silk stocking composed throughout a substantial portion thereof of natural silk of substantially the same color and elasticity, said stocking being of a weight in which so-called horizontal streaks, bands, rings, or light and heavy shade characteristics can ordinarily be observed, as for example, in a substantial translucent stocking, said portion of the stocking being formed of at least two separate yarns from natural silk, each alternately laid for a single course, the said yarns being similarly laid in repetition, each for a single course only throughout said substantial portion of the length of the stocking whereby the inevitable inequalities and different portions of the same yarn of natural silk are diffused and distributed and said inequalities are all blended by the said interposition of single courses of all the yarns so that the so-called streaks or bands or light and heavy shade characteristics are substantially eliminated.

## Is Hosiery Manufacture Adaptable to the Self-Sustained Village Idea?

THE establishing of industrial plants in small communities somewhat remote from manufacturing and marketing centers, as a means for making such scattered villages more nearly self sustaining along higher standards of living than those to which they have been accustomed, seems to be a matter that appeals to some perplexed hosiery interests. The idea, it is believed, originated in Washington officialdom and was, in any event, exploited by the wife of the President, who some months ago cited a Virginia hamlet as adapted to experimentation along this line.

The knitting of seamless hosiery, it was suggested by a manufacturer of cotton underwear, is well suited to small community industrialization. A battery of machines could be set up in even better fashion than that which was associated with the start of some of the more important factories of the present, it was pointed out. Small plants in which members of a family and a few financially interested operatives would constitute the entire working force, are suggested by a knitter who related his experience with a somewhat ambitious concern in which at the start all of the employees were relatives, women members of the households doing the clerical work and looping. This, however, is a full-fashioned plant, which has increased in number of machines considerably, being credited with 60 leggers and footers; is said to have a good rating among mill agents and the trade in general, and is operated by an organization classed as "proprietors".

When this organization started there were of course no single-head full-fashioned hosiery machines, and the cost of a minimum unit was around $25,000. Now, with single-head machines available, small communities, it is pointed out, could the more easily set up full-fashioned plants. Advocates of the communal industry, however, say the seamless division would appear to offer a better opportunity for beginners, and it was noted in an incidental discussion at the Manufacturers' Club in Philadelphia that a number of small mills are springing up in southern hosiery centers.

The Schuylkill Valley region of up-state Pennsylvania was, not so many years ago, dotted with small cotton underwear plants, some of which have grown like the acorn in poetry. If the NRA is to further the communal industry idea, said a hosier, the hosiery trade probably will "do its part."

## Says Standards Can be Set on Different Phases of Full-Fashioned Production

EDITOR COTTON:

I am the man who submitted to you the question in "KNITTING KINKS" with reference to analyzing the time required to produce a set of full-fashioned hosiery. You published one answer to this from "CONTRIBUTOR NO. 6303" in the April issue on page 134, and another from "CONTRIBUTOR NO. 6302" on page 134 of the May issue.

Both of these correspondents take the stand that the time on each operation is of minor importance, because an operative who turns welts in a certain time might produce less in eight hours than one who takes longer, etc. In other words, where one operative is fast in one place, another is slow, but makes up elsewhere, or is saving in needles, etc.

Now I agree that this is true; that it is the present-day situation and attitude, nor do I believe that we will ever be entirely away from that human variation. But, my point is that through time studies of each step, and the comparisons between mills good standard time for each operation can be set up. Then the legger who is slow in turning welts can be shown where he is slow and can be encouraged to speed up on that particular operation. In turn, let every man be shown his weak spot, or the operation where he is lagging as compared to the standard, and endeavor to speed up in that particular spot. When this is accomplished, then pick up the next slowest, and so on.

Thus do I believe, the general production can be increased efficiently without increased waste, menders or needle breakage. I readily grant you that certain spots will be found which can never be entirely brought up to standard, with some of the men, but certainly the idea is pointing in the right direction, keeps the interest alive, lets the operative know that the foreman and management know what is being done and will actually give results. The only way to speed up in any operation is to take it step by step and gradually increase the speed. The only place where this will not work is that mill which is now perfect and there is none such. Therefore, there are bound to be spots where slowness can be helped if the matter is approached step by step, with thoroughness and tact. the best guide to these spots is a schedule of standards for each step, and a check up of each step by every operative. Hence, the desire to compare averages in time for each step. If faithfully followed diplomatically, results will be seen in the lowering of the average total time.

CONTRIBUTOR NO. 6301.

WE invite our readers to make use of this department for the discussion of any and all problems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given, but will be held in confidence and a pen name substituted when printed. All acceptable contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

◆ ◆

## Criticizes Seamless Figures in May Issue

**Finds records of May contributor contrary to his experience on machine speed, waste, needle breakage, etc. . . . . .**

EDITOR COTTON:

The subject of the number of machines per fixer on ladies' seamless hose, and other subjects, was discussed by "CONTRIBUTOR NO. 6309" on page 125 of the May issue of COTTON. I would like to comment on some of the statements he made. In referring to 260-needle, 3½-inch S. & W. K Machines, this man states that these machines are run at a speed of 225 r.p.m. This seems to me to be about 10 to 15 r.p.m. too fast for efficient operation. A speed of 210 to 215 r.p.m. will doubtless pay in saved menders, waste and needles, and perhaps in gained production over a long period. It would appear that smash-ups would be inevitable at 225 r.p.m., and when they do come, the speed would make it much worse. I believe that a slightly lower speed would be more efficient.

This man states that his waste on 150 denier rayon on these machines is 8 per cent. If he refers to the total of seconds, thirds and waste, then I dare say his figure is better than the average, but if waste only is 8 per cent, something is badly wrong. Our waste does

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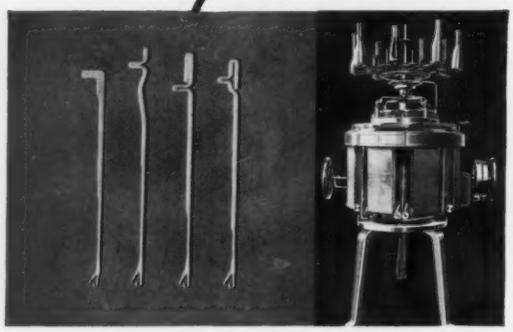

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not run over 2 per cent and we think it is too high when it gets to that point; this is on 260-needle, loose welts, cradle sole, etc.

It would be very interesting to see a comparison on 150 denier rayon (dull and bright) knit on 260-needle K machines, with elastic welt attachment, cradle sole, etc.,—of seconds, passed seconds, thirds, looper menders, waste and needles.

Speaking of needles, "CONTRIBUTOR No. 6309" states that on the work in question his needle breakage is about one needle per dozen, which in my mind is about twice too much. We average .45 to .55 needle per dozen on these machines. This would appear to strengthen my statement that his machines are running slightly too fast, for he himself states that, "the speed of the machine controls the needles used per dozen."

CONTRIBUTOR No. 6301.

## Helpful Hints on Standard Knitting Machine Fixing

*(Editor's Note—This is the fourth in a series of articles discussing the parts of Standard knitting machines and giving helpful, practical suggestions on fixing them. The first article appeared on page 129 of the April issue and gave a history of these machines. The second article on page 127 of the May issue, covered the parts shown on Plate I in the Standard catalog. The third article covering Plates 2, 2A and 3 was on page 105 of the July issue.*

*The numbers in parentheses following the names of parts are the numbers used by the machine manufacturers for the various parts. It is suggested that the reader refer to the plates in question in the Standard catalog in reading these discussions, and that he clip these articles and file them in the catalog with the various plates for further reference.)*

### Plate 4—Standard

EDITOR COTTON:

#### Front Section of Cam Cylinder Assembly

Here again, Standard simplicity and ruggedness enter into the picture. If the assembly must be removed for any reason it is merely necessary to remove two screws (K-739), raise the plunger (K-995) and take it away all in one piece. Replacing the assembly can be done quickly and easily, as there are no adjustments to make; simply replace the assembly and tighten the screws.

The assembled front section is shown on the plate with the lowering pick and pick bracket (K-162) in position. The various parts of the lowering pick assembly are shown individually at the bottom of the plate.

Standard machines have always enjoyed a good reputation for simple, trouble-free and positive lowering pick action. But I do not want to leave the impression that Standard lowering picks never give trouble. They do, but as a rule the various difficulties which may arise are not hard to locate or overcome.

Some of the more common ailments are loose flag cam screws (K-1092), screws (K-761) in cap (K-163) working loose, springs (K-762) and (K-763) being broken, pick pivot screws (K-764) getting loose, or the upper or lower prongs on the swivel (K-142) being broken. Any of these will cause loss of control of the pick and are bound to give trouble. The levers (K-692 LH) and (K-693 RH) rarely get out of order. The downward distance which the pick must travel to lower the needles sufficiently is controlled by the V-slotted actuating plate (K-687). This plate is held rigidly to the pick brackets (K-162) with two screws and a dowel pin. It rarely gets out of order.

#### The Lowering Pick

Standard lowering picks are accurately made of excellent material and are ready to go into the machine just as they come from the machine builder. They are made up to fit the various machines according to their diameter, gauge and the number of needles in the cylinder.

Lowering pick troubles are not always caused by the pick itself or by the pick assembly. More often they are traceable to contributory causes such as bent or damaged cylinder walls, excessive needle tension, improper lubrication of needles or pick assembly, machines getting out of time, and the like. One of the surest ways of getting *into* trouble is attempting to doctor up various parts of the lowering pick assembly. Among the more common practices (especially with those who are learning) are shortening springs (K-763) and (K-762) and thereby increasing the tension; changing the angle of the V-slot in plate (K-687) by grinding, and thus retarding the downward motion of the pick; grinding off the top of plate (K-687) on both sides of the V-slot, thus preventing the pick from lowering the needles to their normal position. Such practices are good evidence that the fixer has not made a careful study of his trouble and is simply taking a shot in the dark, hoping that the pick trouble will vanish when he gets through tinkering. As a rule it does not.

On the older machines the tube which acts as a housing for the plunger (K-995) was cast in one piece with the cam cylinder section; later models, however, have the tube as a separate piece so that it can be adjusted as desired.

#### The Filling-In Piece

Many fixers look upon the filling-in piece (K-767) as a useless and unnecessary part of the machine. As a rule these parts can be found on the floor, tied to a machine leg, lying around on the fixer's work bench and frequently in the scrap box. No one gives this simple part a single thought until a knitter pushes some needles down while transferring, starts the machine and breaks needles, damages cylinder walls and so on. Just as soon as the damage is done, someone will immediately blame the night man, the apprentice or the knitter for not keeping the filling-in pieces in place. Suffice it to say that the machine builder saw a need for this part and not keeping it in place is neither ignorance or carelessness, just plain laziness on someone's part which will surely lead to unnecessary trouble sooner or later.

#### The Long Butt Cam Bracket

The assembled long butt cam bracket gives very little trouble due to its simple construction. A few

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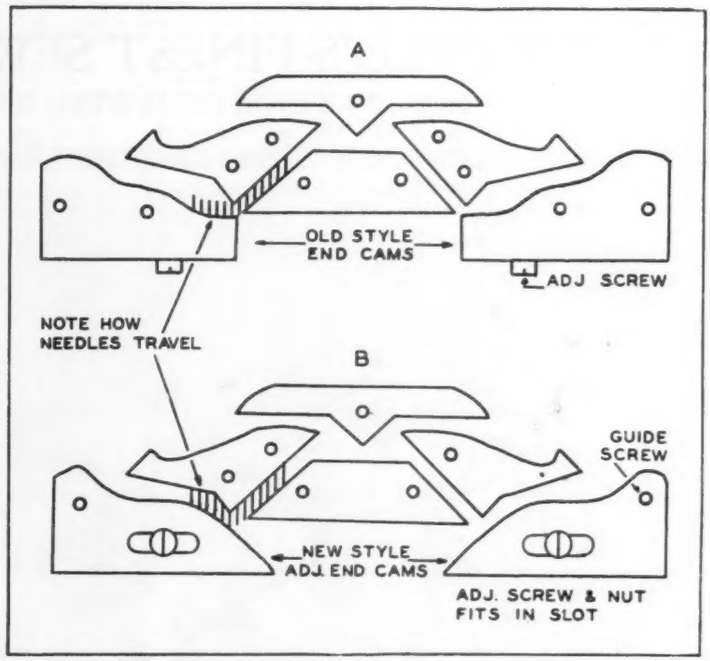
drops of oil weekly in the bearing surface will keep the long butt operating cam moving freely. When adjusting the bracket, make sure that the long butt operating cam is in correct alignment with the needles. When the long butt operating cam is down, it should just clear the outer edge of the short butt needles so they can pass in front of the cam while reciprocating without being disturbed. The nearer the long butt operating cam can be kept to the short butt needles, the better it will raise or lower the long butt needles.

Both sides of the long butt operating cam should be repolished when small nicks begin to show up, as the slightest rough place may cause the long butt needles to jam on the cam when they pass over or under it. In fitting up a new long butt operating cam, make sure that the edges are rounded off slightly, as sharp edges will cause the cam to cut a trench in the upper and lower part of the long butt needles. Even slightly cut or rough needle butts are bound to do some damage, not only to the needles themselves, but also to the cylinder (in case of jam-ups), long butt operating cams and other cams as well.




## Plate 5

### Back Half of Cam Cylinder

The assembled back half of the cam cylinder shown on this plate is another example of Standard simplicity or compactness. The completely assembled back half can be removed and replaced in a few minutes, it being necessary to remove only two screws; adjustments of any kind are unnecessary as there is nothing to get out of order. On the back half are mounted the various cams which control the needles during the knitting operations and the assembled right- and left-hand pickers. I will attempt to give the readers a few suggestions in regard to the care and adjustment of the various parts of the back half assembly.

### The End Cams

The end cams shown on the plate are the old style which were not entirely satisfactory due to the fact that it was difficult to control the needles properly at the knitting point. Lack of needle control was caused mainly by two things, first, only a small amount of upward adjustment to offset wear on the point of the stitch cam and the top of the end cam directly under the point of the stitch cam could be secured; second, the old style cam was shaped so that it would not raise the needle butts immediately after they passed the point of the stitch cam.

Due to these reasons there was always more or less difficulty in keeping even heel and toe knitting It was also difficult to eliminate loose and tight vertical streaks in the leg and foot and the machines would not stay in size as they should. Most of these troubles were caused by the old style end cams.

About three years ago the company developed a new type end cam which can be adjusted circumferentially and the cam is so shaped that the needles begin to raise immediately after they pass the point of the stitch cam. As soon as these end cams were available, we proceeded to change our coarse and fine gauge machines over to the new style end cams, and we feel that we have made a 100 per cent improvement in the appearance of our merchandise as far as vertical streaks and uneven knitting are concerned. The new type end cams can be repolished and re-adjusted without impairing their usefulness. They are not difficult to install and are much cheaper in the long run than the old style cams.

Mr. Mill Man, if you are still using the old style end cams, order a set of the new style cams, fit them up carefully, and then be governed by the results you get. You will be surprised at the difference one new pair of cams will make. Figure *A* herewith shows the old style end cams; Figure *B* shows the new style adjustable end cam arrangement.

### Care of Cams

Stitch cams, end cams, guard cams, top and center cams—all of these not only need but justly deserve some attention. Naturally, they will all wear out in time, but their usefulness can be greatly prolonged if they are re-polished thoroughly and carefully at regular intervals. You've all heard the old saying, a stitch in time saves nine. Apply it conscientiously to these different cams; don't wait until they are so badly cut up that you lose control of the needles and get into a peck of trouble. Go after them just as soon as you see the small trouble-making gaps appear. Re-polish the cams carefully. You will save yourself a lot of work and worry and you will help the mill make a profit, and that after all is your job.

Many years ago, when circular machines were in their infancy, all stitch cams had a straight face from the upper part of the cam where the needles

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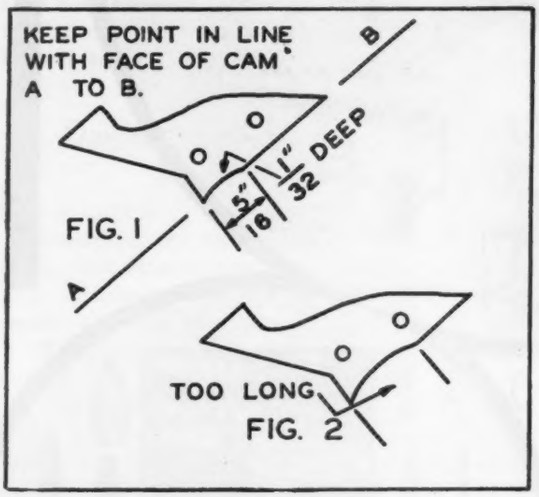
first strike it, down to the point. On some types of coarse gauge machines such cams are still in use. However, on most types of fine gauge machines, hollow ground cams have been universally adopted.

It is not my good fortune to know who originated the idea of hollow grinding stitch cams, but I do know that it has stood the test of time. Without it some goods of today could not be knit satisfactorily, and there is a right and a wrong way to do it.

### Hollow Grinding Stitch Cams

There are three important factors to be considered in connection with hollow grinding stitch cams. They are, the *location* of the hollow portion, its *length*, and its *depth*.

Fig. 1 shows a stitch cam correctly ground. The hollowed portion should be 5/16-inch long and should begin at the point of the stitch cam, thence upward. The deepest portion of the hollow should be exactly in its center, not over 1/32-inch, as shown in Fig. 1



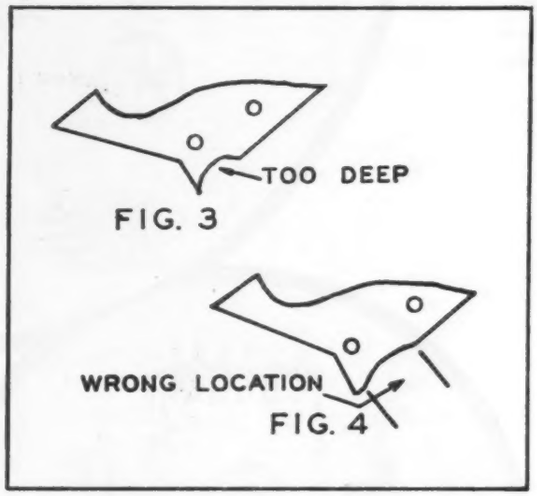




Fig. 2 shows the hollowed portion too long. This very often causes the latches to shear the yarn, either cutting it off completely or giving it a hairy appearance, especially on rayon plaited or silk numbers. Fig. 3 shows the hollowed portion correct in length but entirely too deep. This kind of hollow grinding will cause broken needle butts, and will, generally speaking, be hard on needles. It will also cause the needle hooks to crystallize and break off, and excessive needle breakage will result.

Fig. 4 shows the hollow in the wrong location. No benefit will be derived from this hollow, as it is entirely too high up and not in conformity with the time at which the loops are fully formed. The machine would run better without it.

A neat job of hollow grinding can be done by using a fine grit soft grinding wheel about two inches in diameter, running at a high speed. A wheel of this type will leave a smooth surface which can be highly polished by using some fine emery cloth on a small arbor. Due to the fact that it is necessary to run various lengths of needle butts, including the regular long and short butts, also medium butts, and in some instances in-between lengths such as .255 or .330, it is advisable to keep the face of the stitch cam from 3/32- to 1/8-inch wide, and of a uniform width from top to bottom including the hollowed portion. This practice, commonly called backing-off cams by most fixers, assures the same action on all needles by the stitch cams regardless of butt length. Full width stitch cams have a tendency to tilt the needles outward away from the cylinder; in addition to this a full width left-hand stitch cam will show more wear on the point by the short butt needles than by the long butt. This of course is due to the fact that the short butt needles knit as much of the leg as the long butt and the heel and toe in addition. Numerous troubles are bound to show up if the face and point of the stitch cam does not control both long and short butt needles exactly alike.

### Matching Stitch Cams

Standard stitch cams are not adjustable. When new cams are put in a machine they must be matched for length to avoid wavy knitting in the heel and toe. The same applies to old cams which have been worn enough to make them of uneven length. Wavy and uneven heel and toe knitting is caused chiefly by carelessness in matching new cams, and re-working old cams, plus wear and tear; permitting a machine to run in this condition is a good sign of laziness or indifference on the machine fixer's part. Evening up stitches in the heel and toe can be done easily by knitting a piece of tubing clockwise and counter-clockwise. The difference in the length of stitch drawn by the respective cams can be readily determined. It must be overcome by either shortening the long cam or replacing the short cam.

Left-hand stitch cams do wear off more rapidly on the point than right-hand cams, but the right-hand stitch cam will wear off on its upper surfaces more rapidly than the left-hand cam. It would seem logical, therefore, to use cams in pairs, and not put one new cam in a machine and match it to an old cam; rather, re-work a pair of worn cams as long as they are fit to use; then replace both cams. The amount of service which can be gotten from a pair of stitch cams is largely dependent on how regu-

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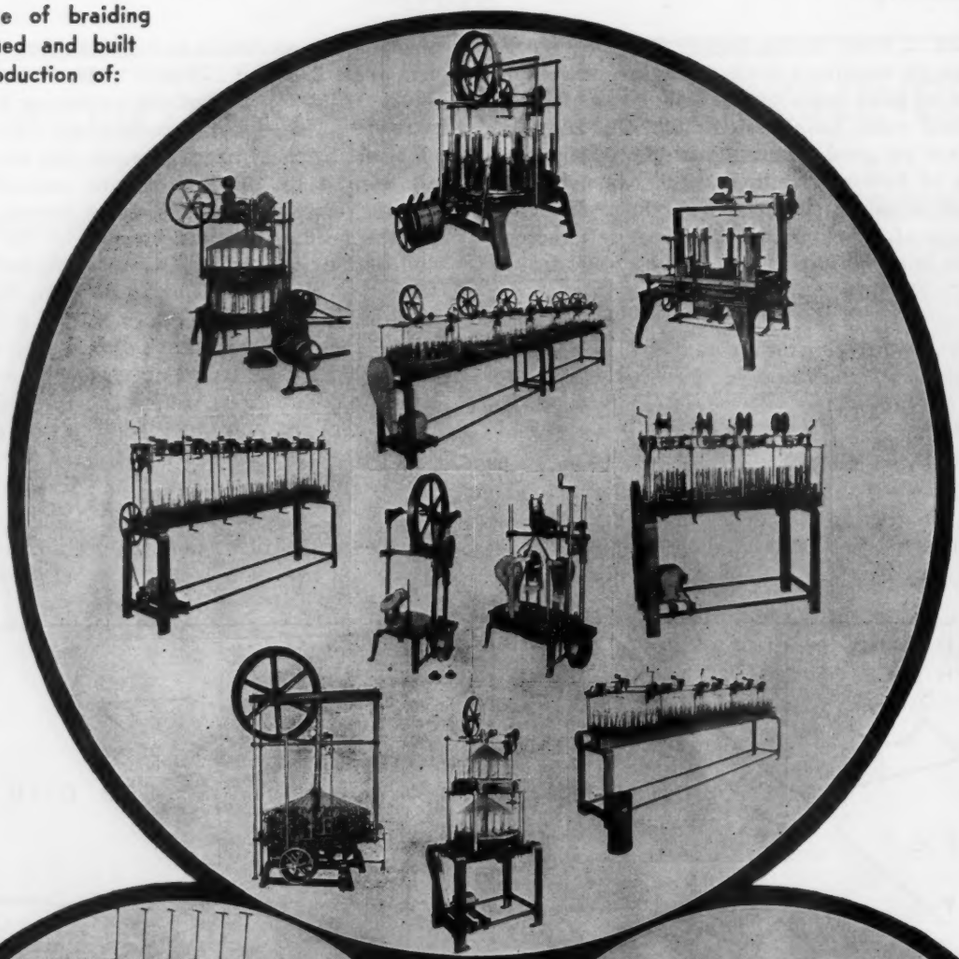

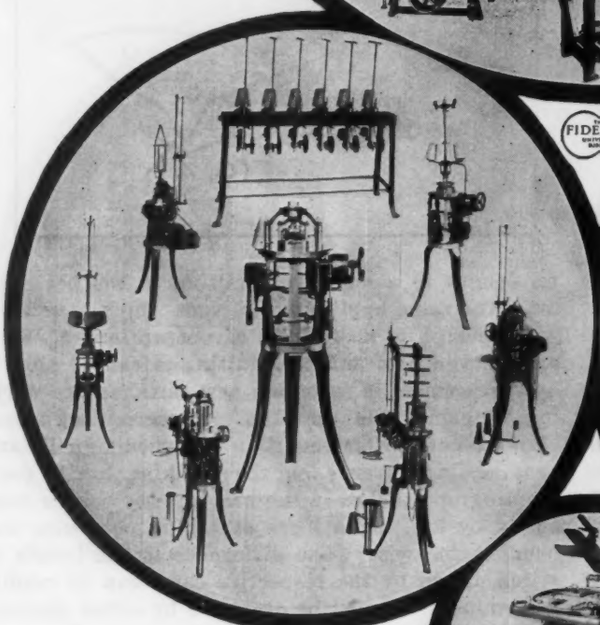

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larly they are re-polished. Standard stitch cams will give excellent service if they are given a reasonable amount of attention.

### The Stitch Cam Slides

The stitch cams are fastened to individual slides as shown on the plate. The slides in turn fit into a recess in the back half and are held in position by the raising pick bracket (K-159). The slides are not troublesome. Accumulations of hardened oil and grit around the slides and in the recesses will cause the slides to stick. An occasional cleaning will remedy this. Unnecessary filing of slides should be avoided as it will cause up-and-down or side play and make it difficult to control the stitch cams properly.

### The Raising Pickers

Standard raising pickers are very dependable. They do not require much attention when once properly fitted. They should be lubricated regularly. Like the lowering picks they are especially made to fit the various diameters and gauges of machines; if ordered correctly they are ready for use just as they come from the machine builder. The manner in which the pick is mounted, the design of the swivel (K-172) as well as the other parts of the pick assembly have all contributed toward the machine's enviable raising pick reputation.

The picker actuating plates (K-684-685) are securely fastened to the picker bracket. They seldom give trouble and when they do wear out the cost of replacement is small.

Standard raising pickers do not raise needles quite as high as similar parts on other circular machines, merely high enough to clear the point of the top cam; this is just another reason why they work well with a minimum of trouble. The raising picker release lever keeps the picks off of the needles during the leg and foot knitting and puts them into action during the heel and toe knitting.

In closing, let me state that Standard's dependable raising and lowering pickers did not just simply happen, rather they were designed and built for service, and service they give without flinching.

The next article will cover the parts shown on Plate 6.

MARTIN A. SHAW.

## A Device for the Picot Attachment on Model K Machines

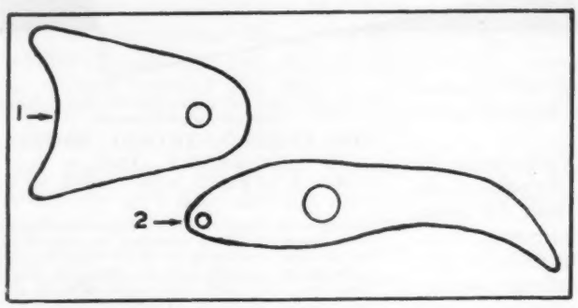
EDITOR COTTON:

Sometime ago we purchased some Scott & Williams picot attachments known as 1 x 1 of 4 courses. This attachment was for a Model K machine, 260-needle, 3½-inch diameter.

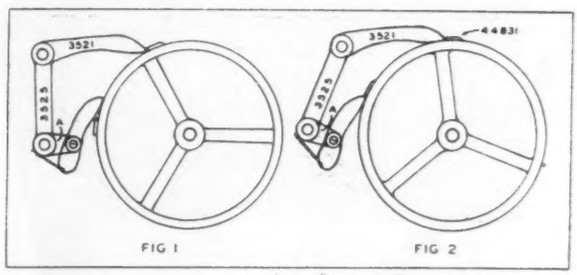
We found that this picot was very unsatisfactory due to the fact that a 4-course picot piles up the stitches to such an extent as to spoil the picot effect which we desired to stand up, and be pronounced as a picot should be.

The yarns we were using for this picot were 70s/2 mercerized and 7-thread silk individually.

What we wanted was a 2-course picot instead of a 4-course, but because of the nature of this picot attachment we found an improvement had to be made which we developed in order to get the 2-course effect, and this resulted in a clear cut picot and one that is very satisfactory. The manner in which this improvement was applied will be illustrated in the accompanying sketches. The purpose of the device which we rigged up is to get a quicker action in throwing the picot thrust rod No. 14827 off of the drum cam, which controls the length of time the stitch cam bracket is kept out of action. This is accomplished by adding Parts 1 and 2 to the regular attachment, and thus supplying additional drum movement.




Showing Part 1 and Part 2 in actual size for making device described here . . . . . .



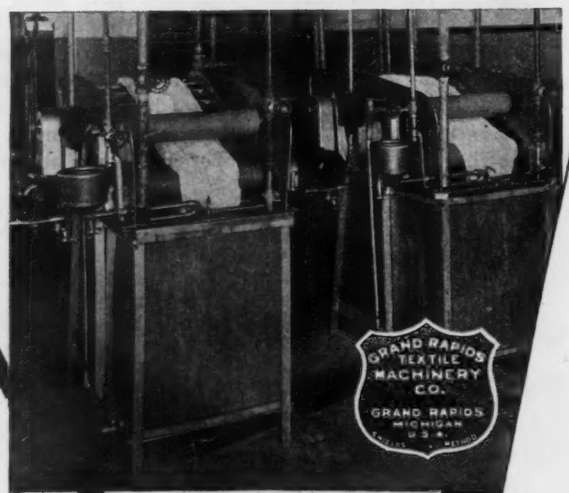

In order to supply additional movement to the drum, we have simply added Part 1 and Part 2 as shown. The reader knows, of course, that part 3525 moves back and forth, and as it moves forward, it pushes the regular pawl 3521 against the cam *C*, thus moving the drum forward in the regular way. This moves the drum far enough to bring the cam *D* in front of Part 2, and as part 3525 moves backward away from the drum, Part 2, which has now dropped behind the cam *D*, moves upward, thus moving the drum still farther.

It will be noted that two pieces of material are needed to make these parts. As per the illustration, Part 1 is made out of ⅛-inch tool steel, which can be hardened and brazed at point *A* to Part 3525. This Part 1 is ⅛-inch thick x 1¼-inch long.

Part 2 is made of the same material and hardened and drilled. This part is ⅛-inch thick x 2¼-inch long. Part 2 pivots on Part 1 with an 8-32 shoulder screw. Part 2 is held down by a spring which is attached to a small hole drilled at its end, and fastened to the back of part 3525 with a hook as shown in Fig. 1.

CONTRIBUTOR NO. 6331.

# WHAT manufacturers of fine fabrics would be glad to know




*Installation of Monel Metal piece goods sample dyeing machines at the plant of Van Raalte Co., Paterson, N. J. Built by Grand Rapids Textile Machinery Co., Grand Rapids, Mich. This type machine available also in 200-lb., 400-lb. and larger sizes.*

## *Van Raalte tells Grand Rapids Textile Machinery Company how Monel Metal Dyeing Machines perform*

VAN RAALTE COMPANY
PATERSON, N. J.

May 2, 1934

Grand Rapids Textile Machinery Co.,
Grand Rapids, Mich.

Gentlemen:

It has occurred to us that you might be interested in knowing the use to which we have been putting the No. 1801 MS all monel metal dyeing machines. These machines are being used for the dyeing of laces of all kinds and we find that they are well designed for these delicate fabrics. The monel metal construction makes possible the quick rinsing and cleaning of the tank so that there is no delay in starting a new lot of a different color as soon as the previous lot is complete.

No doubt other manufacturers of fine fabrics would be glad to know of the suitability of the machines for the dyeing of lace fabrics.

Very truly yours,
VAN RAALTE COMPANY
H. V. W. Vest.

FINE LACE!...there's a test for dyeing machines.

A test that the Grand Rapids Textile Machinery Co. installation shown above passes with flying colors. Those Monel Metal machines are used in the Van Raalte plant in Paterson, N. J., for boiling-off, scouring, washing and dyeing cotton, silk and rayon laces. They usually run at the rate of 3 or 4 batches a day...a daily production of 120 to 160 lbs.

See how Monel Metal aids Van Raalte to hold production up to such a high level. Monel Metal is rapidly cleaned. No boiling out between colors...changes can be both frequent and rapid.

The highest quality of work is also assured. No harmful chemical re-action between Monel Metal and commonly used dyestuffs, so there are no off-tints. And the smooth, hard, splinter-free surfaces offer utmost protection to delicate filmy fabrics.

Absolute freedom from rust, and stubborn resistance to corrosion prolong the life of the equipment...and Monel Metal's great strength prolongs it even further.

Monel Metal is steadily increasing in dye-house use, not only for piece-goods dyeing machines but also for skein and package dyeing equipment, vats, extractors, dyesticks, utensils, trucks, heating coils, piping and accessories.

*Write for complete information about all kinds of Monel Metal dye-house equipment.*

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET, NEW YORK, N. Y.

• • •

*Visitors to the Southern Textile Exposition, Textile Hall, Greenville, South Carolina, October 15-20, who are interested in the use of corrosion-resistant materials, are cordially invited to inspect the Monel Metal and Nickel Alloys exhibit at booths 443 & 444.*

Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

MONEL METAL

**Monel Metal**

## Formula for Dyeing Rayon Goods

EDITOR COTTON:

In the formula for dyeing rayon goods, which "CONTRIBUTOR No. 6194" gives on page 134 of the May issue of COTTON, it seems to me that too much soap and alkali is specified. If it is of benefit to anyone, I am very glad to give the following formula which gives us excellent results. We have a Permutit water softener, use mercerized yarns in heel and toe, and I am referring to our 260-needle number of 150 denier dull rayon.

Our formula follows:

Enter goods.
Fill with hot water (170 to 185 degrees).
Enter 2% tri sodium phosphate and 2% olive chip soap.
Bring to boil in about 5 minutes.
Run at boil 10 minutes.
Flush over with hot water, getting out all old bath.
Enter 1% olive chip soap.
Enter Dye.
Run 30 minutes.
Salt with Glauber's Salt.
Run 20 minutes.
Sample.
Drain and run 1 cold rinse for 10 minutes.
Extract.

It will be noted that this process saves from two to four per cent of soap. Also, the flushing over gets rid of the oil from the rayon and assures no spotting or interference from it.

"CONTRIBUTOR No. 6194" stated that any mild alkali will serve. I question very much the use of soda ash, which has a tendency to pit the rayon. On the other hand, tri sodium phosphate is mild, is an excellent oil remover and a wonderful softener.

We find that in this process nothing is needed for a finisher. If sulphonated oil is used, as suggested, by "CONTRIBUTOR No. 6194" would not the luster be increased? And is that not directly against the tendency of having a stocking as dull as possible?

CONTRIBUTOR No. 6301.

## Answers Questions About Seamless

EDITOR COTTON:

I would like to endeavor to answer the questions of "CONTRIBUTOR No. 6301", as they were published on page 94 of the March issue of COTTON, with reference to the number of machines handled by one fixer in a seamless mill, on 260-needle 3½-inch machines, on 150 denier ladies' string work.

Taking up his questions in order:

1. What number of machines is handled by one fixer? We do not have a fixer take care of any certain number of machines, as we have only a few machines of each kind and use 125 and 150 denier rayon, 5-, 6- and 7-thread silk, and 54-gauge work. Our machines are 240-, 260-, 280-, 300-needle. It works out that each fixer takes care of 55 machines on the average. Each fixer sizes his own machines twice each day, makes his own style changes, and changes most of his needles.

In answer to his other questions I will say that we average about one needle to the dozen, and average one piece of waste to each ¾ dozen, and our seconds range from 4 to 12 per cent depending upon the style and needle of the work. CONTRIBUTOR No. 6298.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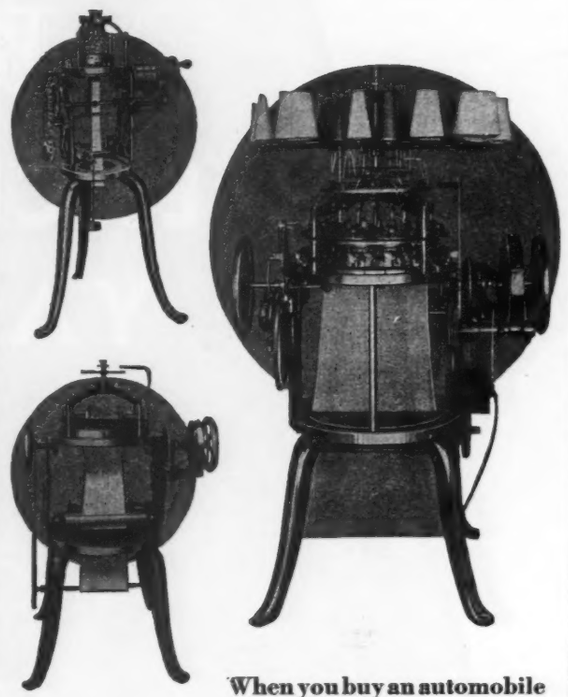

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# THE KNIT GOODS MARKETS . .

**Written at Philadelphia, Pa., August 14, 1934.**

THE unusual lull in the market for hosiery during the latter part of July and the greater part of August, although seasonal, must be attributed in part to the interest of retailers in the formal introduction of ringless hosiery. It was made apparent, some weeks ago, to some of the more observant representatives of mills calling on the retail trade, that many of the dealers were reducing their stocks in preparation for installing a complete line of the ringless type.

In view of the admitted over-production of hosiery in June, as well as in previous months, there was a severe decline in prices, in fact, there developed a situation in which there was no price basis. That was a result of over-production at a time when it was known to virtually every manufacturer in the United States that a ringless type of stocking would be introduced in a general way throughout the retail trade in advance of the beginning of the Fall shopping season. Surplus stocks, in connection with a general desire to unload the conventional types of hosiery, presented a combination that could not result otherwise than in a disruption of the price structure.

Prices probably reached their bottom around the middle of August, when four-thread 42-gauge stockings with picot top and all the usual talking points were available to quantity buyers at $4.75 a dozen, some quotations, for a less desirable stocking, being as low as $4.50, while the quotation for comparable goods in the gray was around $4.25.

Obviously it was the hope of manufacturers during the depth of the depression as affecting the markets for hosiery in 1934, that some activity would develop in the Fall, and that, in any event, there would be afforded opportunity for putting into distribution any surplus stocks that might be accumulated. This was a logical assumption, but it appears to have not been fully visualized, as while mills were over-producing at the rate probably of 25 to 30 per cent in excess effective demand, retailers were buying on an ultra-conservative basis. This also was logical, in the circumstances, as it was natural that buyers should take advantage of an over-supplied market and manipulate for the lowest possible prices at which manufacturers might be willing to sacrifice their goods, under stress of circumstance or otherwise.

There remains probably another four or five weeks in which to make a clean up of stocks in preparation for Fall retailing. During that period, it seems not improbable, there will be witnessed a great many promotion sales in which prices of many lines in July and August may appear high by comparison. This, however, is purely a matter for conjecture, as it appeared that the result of the drought might seriously impair the buying power of a very large area, which would be reflected, if correctly forecast, in a lowering of prices in competition for the possibly shrunken volume of business, from the drought area in particular.

The August view of market conditions in a general way was not one to encourage accumulation of stock by manufacturers, and following this line of reasoning, buyers for the trade may be expected to proceed with utmost caution for their Fall and end-of-the-year holiday trade. This seems to have been pretty well impressed upon the minds of manufacturers in general, although it appears to have escaped the attention of some mill executives who might be mentioned as operating their plants to capacity as late as mid-August, after the market situation had been officially described as "very critical."

## Comments on Ringless Developments

In citing the coming of the ringless type of stocking as a probable competitor for the better business in hosiery, beginning with the Fall of 1934, it is interesting to note that about the time that the Textile Patents Corporation made public its plans for issuing of licenses to mills under which they may manufacture ringless hosiery on a royalty basis, announcement appeared of a patent having been granted to Paul Krenkel for a ringless stocking in the seamless division. Mr. Krenkel was one of the pioneers in the development of a patent for an attachment to full-fashioned machines for producing ringless hose, but when it became apparent that a patent would be issued to Charles A. Kaufman of Julius Kayser & Company, Mr. Krenkel devoted his time and ingenuity to an invention for applying the ringless construction to seamless stockings. The ultimate result of seamless ringless in competition with full-fashioned ringless hardly can be approximated at this time.

As in the full-fashioned group, silk seamless hosiery seemed to need something for preserving its place in distribution, and it seems probable that something is provided in the granting of a Canadian patent to Mr. Krenkel.

It would be difficult at this time to state, with any degree of accuracy, the price at which true ringless full-fashioned stockings will be available to the consuming public. It was indicated recently, however, that the price to jobbers for 4-thread, 42-gauge, ringless would be $5.75 and to retailers $6.35. This was not providing for a very wide margin for the jobber, but it was felt among promoters of the ringless full-fashioned that if the price were made legitimately high there would be witnessed a species of bootlegging, or offering of infringed hosiery at radically competitive prices.

It was not overlooked by the Textile Patents Corporation, controlling the Kaufman patent, that what purported to be true ringless had been on sale somewhat recently at 59 cents a pair, a price that would be impossible with retailers paying $6.35 per dozen. It was understood at the time the $5.75 and $6.35 prices were under consideration; that they might be subject to change depending upon the number of manufacturers producing the ringless full-fashioned on a royalty basis. It cropped out during the final stages of the formulation of plans for safeguarding jobbers and retailers, and manufacturers as well, that several producers, selling their output under nationally advertised brands, were favorable to considerably higher prices than those indicated for 4-thread 42-gauge.

With a basis established for any specific type of construction—gauge, courses and weight of silk—it was assumed that 45-gauge and finer would find their own price levels, reasonably higher than those of 42-gauge. Thus far everything relating to suggested resale prices seemed rosy. But it was doubted by many in the trade that it would be possible to stabilize and maintain stabilized prices. This, however, is a problem for which the patents pool may be expected to find a satisfactory solution. The issuing of a patent for a ringless type of seamless hosiery may, however, give the picture an entirely different aspect.

William R. Smith, vice president of and attorney for the Textile Patents Corporation, is conceded to have accomplished what at one time may have been regarded as impossible, in his bringing together of some of the more important manufacturers of full-fashioned hosiery into a compact body for regulating production and distribution of the innovation. But it is admitted in the trade that his job is far from complete, for at last accounts he and his associates were still at work on a formal contract designed to be not only effective, but acceptable to the majority element of the full-fashioned industry. Mr. Smith, by the way, also was the attorney for Mr. Krenkel in obtaining the Canadian patent for the ringless type of seamless hosiery.

Licensees manufacturing a ringless full-fashioned stocking are to pay a royalty of ten cents per dozen. It has been estimated by officials of the Textile Patents Corporation that the income from royalties may amount to as much as $2,500,000 a year—a very snug sum to be distributed among the seven original backers of the applications for the patent which recently was awarded to Mr. Kaufman.

It may be interesting to note that Isaac Eberly, of the Oakbrook Knitting Mills, a member of the Textile Patents Corporation controlling the patent for the ringless full-fashioned type of stocking, financed Paul Krenkel during his development of the patent for the ringless seamless type.

Referring to the possible several million dollars receivable annually from royalties, the Textile Patents Corporation can find good use for a large part of this sum in investigating reports of alleged infringements and prosecuting infringers. In an inquiry made in the trade recently for ascertaining the approximate number of three-carrier devices that have been purchased by manufacturers, it was ascertained that several who had acquired one or two from the Textile Machine Works had employed machinists to duplicate them. The Textile Patents Corporation has knowledge of this, and doubtless will be actively on the trail of those suspected of making, or having made for them, attachments other than those authorized to be made under

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## TEXTILE MACHINE WORKS

READING • PENNSYLVANIA

Thomas W. Montgomery, trading as the Granite Associated Mills, in Philadelphia, distributing to the better retail trade, reports an experience which he says convinces him that it may be necessary for the Textile Patents Corporation and its licensees, to advertise direct to the consumer in order to safeguard the consumer against the purchase of inferior ringless at inadequate prices for the purpose of guarantee. Mr. Montgomery relates that in offering the line of a mill, which he represents, to a retail store in an important interior Pennsylvania city, he found that his price was 50 cents a dozen higher than the retailer said he had paid for the line he was offering. The retailer was content to continue handling this line, rather than pay 50 cents a dozen more for that of Mr. Montgomery's mill, for, he represented, "my competitors are selling this line and I don't know that they are receiving any complaints. It comes from a good mill."

In a technical comparison of Mr. Montgomery's stocking with that which the retailer in question was offering, it was admitted by the retailer that the Montgomery stocking was the better of the two as to construction, although both are ringless, and really was worth 50 cents a dozen more than the line he was selling. This was cited as one of the illustrations of possible confusion as to prices of ringless such as has prevailed in the conventional or, as some times referred to, knitted on the go-as-you-please order.

It would appear from the common proposal that the public is buying price rather than known quality, that the larger contributors to the fund derived from royalties by the Textile Patents Corporation will be the manufacturers of popular priced lines, e. g., 4-thread, 42-gauge. The question has arisen, will the products of these mills be so satisfactory to Mrs. Shopper that it will be difficult to obtain $1 or more a pair. The John Wanamaker store in Philadelphia had what is reported a successful sale of true ringless at 85 cents, a possible price for retailers paying the indicated $6.35 a dozen.

At the beginning of the ringless "sensation" it was felt that no ringless full-fashioned should be sold for less than $1 a pair. An interior Pennsylvania mill is marketing a line, sold under its guarantee. that sells, in several numbers, from $1 to $1.50 a pair. It is stated that in this mill inspection is so rigid that it is impossible for shadows or rings to pass unnoticed, particularly as the inspectors have been made to realize that should any stockings with blemishes be passed as perfects, their jobs in the mill would be forfeited as a penalty for careless inspections.

There is no question in the minds of some distributors that irregulars will be offered as first quality ringless, particularly those from mills exacting closest possible inspection. In fact, it was stated before the Textile Patents Corporation began to exercise supervision over distribution, that the irregulars from at least one mill were the equal of the first-grade of one other mill having a considerable distribution.

## Conditions Prove Soundness of John Brine's Appeal

While John Brine, Rollins Hosiery Mills, Inc., Des Moines, Iowa, in his official capacity of president of the National Association of Hosiery Manufacturers, was pleading with manufacturers to close their mills for at least two weeks, or as long as possible without affecting deliveries, numbers of mills were in production full time, a few reporting operation on double shift schedules.

In a form letter addressed to the industry, President Brine described the industry as passing through an "admittedly critical" period, a situation such as had never existed in its history. He directed attention to the fact that while a number of plants were in operation on a curtailed basis, manufacturers were violating the section of the hosiery code prohibiting the selling of merchandise for less than cost.

There was needed no official investigation to prove that in this respect the code was being violated. This could be readily accounted for by a comparison of a compilation of manufacturers' statistical reports from identical mills for June 1934 and the preceding month, and for June 1933. Even without comparison, the figures, as tabulated by the Department of Commerce, were alarming, presenting a showing such as hardly could have been contemplated.

Virtually all classifications of hosiery were affected in like manner. That orders booked in June 1934 fell off by more than fifty per cent from the volume in the corresponding month of 1933 seemed inconceivable. Yet that was the showing made in the reports of 328 identical mills covering the two June months. Production was continued during July on about the scale prevailing in June, and there was no material deviation from it, apparently, in August, after copies of compilations of mill statistics were in possession of practically all mill managements.

John H. Brine asked for none too much in the way of sacrifice when in July he pleaded with manufacturers that they cease plant operation for at least two weeks. His appeal seemed fully justified by the Department of Commerce statistical report for May, which reached manufacturers early in July and may have been a part of the inspiration for Mr. Brine's address. Comparison of the statistics for June with those for the preceding month are startling as showing the trend in the industry, but comparison with June 1933 is doubly so.

Production of hosiery, all classes, in June declined by 15 per cent from May, orders booked falling back by 19 per cent, and unfilled orders at the end of the month dropping by 15 per cent, while the decline in net shipments in June from those in May was but 11 per cent. Obviously, there was only a slight increase in stocks in mills at the end of the month.

Cancellation of orders in June amounted to about 71,000 dozens more than in May. It seems interesting to note that a considerable part of the gain was reported in men's and women's full-fashioned stockings, while in seamless for men and women there was a decline in cancellations as compared with May.

Output of men's seamless half-hose showed a drop of 83,980 dozens from May to June, and women's seamless a decline of 233,972 dozens. Classified by fabric, cotton hosiery was of less production in June by 449,286 dozens than in May; silk stockings slipped by 231,147 dozens in production, and rayon declined by 213,998 dozens. Men's seamless rayon and cotton in combination lost only around 17,000 dozens in production from May to June, the June output being reported at 377,123 dozens. Juvenile hosiery in the same combination declined to 53,687 dozens in June from 109,131 in May, the lower price construction suffering, apparently, the heavier setback, contrary to common opinion. While rayon and cotton combination in men's half-hose declined slightly, there was a gain in men's full-fashioned of that combination from 927 dozens in May to 2,119 in June. this showing being one of the oddities in the May-June comparison.

The critical period referred to by Mr. Brine in his address to manufacturers in July was vividly pictured in the statistical reports from hosiery manufacturers for June, in which it appears that while production was 25 per cent less for all classes, than in May, orders received declined by 51 per cent and net shipments fell off by 28 per cent, making comparison with the corresponding month of 1933. That shipments could drop from 8,254,919 dozens in June 1933 to 4,008,474 dozens in twelve months probably would have been ridiculed had such a prediction been offered as a suggestion for proceeding slowly during the first fiscal year of experimentation with proposed limited industrial control.

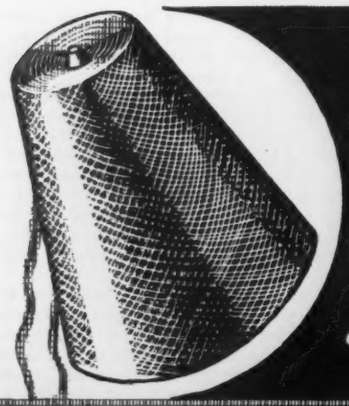
That it was the entirely unexpected that transpired may be a part of the explanation for carrying conservatism to the extreme at times. However, there is seen a disposition to ignore the year's experience, in some particulars, and go ahead with production of certain items in hosiery notwithstanding all the evidence as to market supplies is on the side of an unwieldy excess.

Although orders for men's seamless half-hose in June fell off to 1,345,487 dozens, a drop of 1,471,460 dozens from June in 1933, the output declined only 366,813 dozens, and according to recent report, a half dozen or more new small mills in the South have started production or are in contemplation. Probably the more significant items in the reports for June, compared with the corresponding month of last year, are a 37 per cent decline in unfilled orders, all kinds of hosiery, at the end of the month, and a 23 per cent increase in stocks in mills.

## Women's Full-Fashioned Figures

End-of-June figures relating to women's full-fashioned hosiery show an increase in stocks by 767,667 dozens and a decrease of 856,246 dozens in unfilled orders. It was an especially backward month for women's full-fashioned, with output off by 539,332 dozens from June 1933, orders 1,281,286 dozens less, and shipments off by 973,530 dozens.

Women's seamless hosiery made a relatively better showing in June, compared with the like month of 1933. Stocks at the end of the month had increased only around 6,000 dozens, although there was a decline of 349,210 dozens in unfilled orders, and a drop of 387,049 dozens in orders booked during the month. Production and shipments appear



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to have been fairly balanced so far as relates to output of 186,091 dozens and net shipments of 143,470 dozens.

### Juvenile Hosiery Statistics

Sharp fluctuations are shown in juvenile hosiery, classified as boys', misses' and children's. Declines from June 1933 to June 1934 are as follows: production, 331,156 dozens; orders booked during the month, 781,589; shipments, 241,187; unfilled orders at end of month, 145,121 dozens. Stocks in mills at the end of the month were increased by 21,277 dozens. Stocks of infants' lines decreased by 23,473 dozens. Increases in the wrong column were: Output, 147,433 dozens; orders booked during month, 292,833, and unfilled orders at end of month, 270,580 dozens.

There were fewer cancellations of infants' stocks in June this year than in the corresponding month of 1933. This was the only classification in which increases of cancellations were not reported. They aggregated 140,436 dozens in women's full-fashioned hosiery, an increase of 45,000 dozens from June 1933.

Cotton stockings, all classes, knitted in June, 1934, totaled 650,386 dozens less than in June last year. The decline in all classes of silk hosiery was 371,514 dozens. Production of women's silk seamless increased by around 21,000 dozens, while in women's silk full-fashioned production was 351,280 dozens less. In hosiery of silk and cotton, women's fell off in production by 25,564 dozens from 141,907, and seamless to 20,301 dozens from 31,265. Rayon and cotton in combination fell back by almost 100,000 dozens in men's half-hose and 81,988 dozens in infants' socks.

Rayon hosiery for women produced in June was reported at 12,156 dozens, a decline of 36,734 dozens, while in seamless the drop was 24,578 dozens, to 44,402.

### "Hosiery Market Is Without Price Basis"

The hosiery market has been without a price basis since early in 1934, this on the word of manufacturers and officials of their organization. Therefore, said a mill executive commenting on conditions which it was sought to remedy by naming a minimum, "I cannot be accused of price cutting."

He was asked why, in his opinion, so much hosiery was being sold for less than its cost, and gave a half dozen or more reasons. Some mills, he declared, are in the clutches of their silk suppliers, and have to keep on selling hosiery in order to reduce the indebtedness. "'The silk man supplies the money for the payroll and the manufacturer usually is able to have enough left, after reimbursing the silk supplier, for food and clothing. He is doomed if he cannot hold on longer than some others who are doing the same thing. Selling for less than cost is weeding out a number of mills, so some day there will not be so much hosiery made, and what is made, will fetch more than cost."

Some manufacturers continue to take losses on their sales rather than lose a customer to some other mill, it was explained. The more common reason advanced for selling hosiery below cost was that a great many manufacturers don't know how much their production is costing—they overlook overhead and depreciation and obsolescence, which some day will have to be taken care of to save a plant from bankruptcy or receivership, unless the owner "finds an angel" and passes out of the picture of industry voluntarily, it was suggested.

A manufacturer operating his full-fashioned mill all through July, while most of the time having no orders, explained that he was accumulating stock in expectation of a spurt in demand in August. A mill in Reading, it was related by an executive, early in August did not, for the first time in its history, have an order, and was closed down, intended to remain idle until stock goods could be sold profitably and the files contain a few orders. A manufacturer in the Reading area is quoted as saying that, taking overhead into consideration, he was selling hosiery at $4.75 a dozen, the cost of which was $5.25, and he "hoped to get through 1934 without losing more than $100,000."

Some careful observers believe the number of hosiery mills selling their product for less than cost is and for some time has been over-estimated. It has been going on for so long, according to complaints from organization sources, that, it is pointed out, the number of failures in the industry is conspicuously small.

It is doubted that many manufacturers have been operating and marketing their goods profitably, and it is believed that fewer are not producing than is commonly sup-


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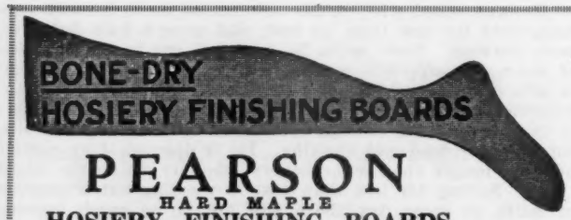


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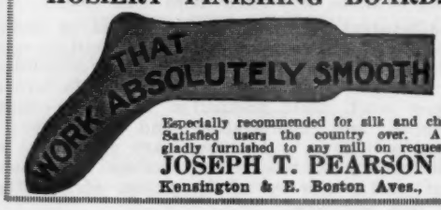


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COTTON

ATLANTA, GEORGIA

posed. Of 343 manufacturers, representing 405 mills, reporting to the Department of Commerce for June, only ten reported no production. A Pennsylvania concern operating full-fashioned and seamless plants, recently was operating the former full time, while the seamless division was idle and had been for some time.

A Philadelphia full-fashioned mill equipped with 190 machines, which ceased operating July 1, was still idle around the middle of August, and it was stated authoritatively the owners had no plans for operating. In this case, idleness of plant is costing the owners more than if they were operating it and selling the product at a slight loss.

A southern manufacturer complained quite recently that while operating his full-fashioned plant on a part-time schedule he could not compete with several mills in the Philadelphia area, and he did not have enough business to warrant running all of the equipment full time. Hosiery is costing manufacturers more than normally for the reason they cannot figure on capacity output. Are they warranted in selling their stockings for less than an abnormal cost? is a question that has been discussed in price parleys.

In his address to manufacturers in July, President John H. Brine of the National Association of Hosiery Manufacturers directed attention to a clause in the hosiery code providing "against selling merchandise for less than cost." If correctly quoted, he said: "A way must be found to enforce this clause."

## Children's Hose

Wool anklets and skating socks are regarded in the juvenile hosiery group as likely items for fall retailing. The outlook for wool stockings for juveniles, as well as for women, is considered quite promising in view of the general opinion that, due to the severity of last winter, dealers made a near complete clearance of such lines. It is, of course, too soon to predicate opinions as to the retail outlet, as the stores were reported in August placing orders for only such juvenile stocking items as they felt would be required for September-October sales, keeping in mind the usual demand that materializes about the time the public schools are opened for the fall and winter terms.

Business in boys' golf hose and misses' stockings has been fairly satisfactory to primary market interests, and half socks, five-eighths and seven-eighths lengths, embracing of course practically the entire range of juvenile lines, are moving to dealers in right good volume, largely in mercerized cotton, which accords with reports from mercerizers of steady call for yarns. Half socks are counted on by some distributors to rise to the dignity of a vogue, as well adapted for wear with the juvenile suits so popular in the zipper substitution for buttons. Children's full-length in wool mixture and women's full-fashioned of part wool are rated in the primary market as headed toward relatively substantial business, since the winter of 1933-34 set a recent new record for demand for wool hosiery for women and misses.

It appears that for current distribution, mercerized lines, for service and as fitting into the shopper price notion, will lead in retailing. This view accords with that of a representative of Kramer Brothers, New York, prominent distributors of juvenile hosiery, who was encountered quite recently on a tour of leading retailers.

It is noted in the Department of Commerce compilation of mill reports for June that of the output of cotton hosiery in that month—1,408,329 dozens—more than one-third was of juvenile hosiery and over a half of the remainder in the men's half-hose classification.

## Will "Half-Hose" Become "Socks"?

Manufacturers of elastic garters are understood to be manifesting some alarm over the apparent trend to men's half hose with elastic bands knitted in as an integral part of the sock. The term "sock", by the way, may be more appropriate next year than "half hose", as, it is believed, the tendency is to a shortening of the stocking, for greater comfort, in the opinion of some advocates of half-hose brevity, which simply is a part of the knitted-in garter elastic innovation. A number of manufacturers are getting ready for shorter socks and fewer detached garters. Some predict that by 1936 garters for men will be as rare as garterless socks now are.

One big hope of the hosiery trade is a departure from vertical stripes and adoption of horizontal stripes, which in the days of seamless stockings exclusively were common in children's stockings. It is noted that some of the imports displayed in a few of the more exclusive retail shops accentuate the horizontal or, to be less positive, suggest it. "When distinct innovations appear in stores where they sell stockings for men for $2 a pair and up, you must expect them eventually in the stores patronized by the masses," is the prophetic comment of a buyer of men's half-hose for a retail store ranking as among the better shops.

A change of style, it is suggested, will serve a good purpose in lifting men's half-hose from the rut of overproduction and sacrificial prices. But, it is pointed out, during the transition there may be hard sledding still for the mill in which equipment may be adapted to only the conventional of 1934.

## The Underwear Situation

With some agitation of a proposal for a revision of the cotton processing tax, and yarns having moved to higher price levels on the estimated shrink from last year's cotton crop, cotton underwear was in somewhat less brisk movement in August, making comparison with earlier months. Reports, unconfirmed but accepted in the trade as indicating an excess of eagerness for orders for men's heavy weights, were to the effect some few manufacturers had been quietly quoting under the market. This necessarily had an unsettling effect, and coming on the heels of an advance in yarns followed by official discussion of the processing tax, seemed to influence a considerable element among jobbers to defer placing their duplicate orders until along in September, when, it was felt, many of the major labor controversies will have been disposed of. There is no doubt among either sellers to or for jobbers that the strike fever was having an adverse effect on nearby consumer purchasing, and that with the waning of this sporadic malady, there will be due a material forward movement in the distribution of seasonal lines such as underwear and hosiery.

Up-state Pennsylvania manufacturers of women's cotton underwear appeared somewhat undecided as to the better course to pursue as to their spring lines; whether it were feasible to make up goods for deliveries in January, before having firm orders in their files. As to certain specific items, it was held, in less than a year and a half there had been an increase of 40 to 50 cents a dozen in labor cost alone, while they had to pay an increase of around 20 cents a pound in single combed peeler yarns. The prices they are able to get for the garments showing these increases in cost of manufacture has been insignificant, relatively.

Men's carded and combed swiss ribs in pullovers recently were quoted slightly lower than at the opening last year—around $1.87½ for 12-cut, it is stated by a manufacturer who maintains that with the added yarn and labor cost since last year, it is next to impossible to get profitable prices for light weight cotton underwear for delivery in January. To provide for an apology for an adequate return, it is stated, manufacturer quotations would have to be advanced to a level where staple lines of underwear would be taken out of current price brackets, something against which retailers rebel. Resistance to price advances comparable with greater costs has been carried to the point where, it is authoritatively estimated, production is being curtailed by around 50 per cent of seasonal normal.

It is conceded among manufacturers of cottons that the vigorous manner in which all-Bemberg and Bemberg and silk in combination are being exploited for fall by several manufacturers is having something to do with the quiet situation in women's staple cotton lines, in which for the present there seems less of styling than a year ago. Silk milanese and tricot fabric have been brought forcibly to the front by several northern underwear manufacturers. It appears that promoters of the use of Bemberg have conducted a fairly successful campaign in quite recent months.

## Outerwear

Knitted outerwear manufacturers are waiting for orders for sweaters and, incidentally, doing some preliminary sampling in bathing suits for the 1935 seasons. Sweaters are unusually quiet, at a time when mills ought to have cases of goods ready for shipment in September. A mid-August estimate of the extent of plant operation was that not more than 25 to 30 per cent of the knitting machinery was active.

A threatened strike in the New York metropolitan area and an indicated receding market for worsted yarns supplied the explanation for the anachronism. Mills were hesitant to make commitments for deliveries of yarns to their plants and shipments of their finished product to their trade. Even those mills which have been essaying cotton and part-cotton sweaters as a solution of the price problem found it expedient to reduce their work time schedules.

# REVIEW OF THE YARN MARKET

**Philadelphia, Pa., August 18, 1934.**

COTTON yarns had been moving to manufacturers in increasingly conservative fashion from the issuance of the cotton crop estimate on August 8. Not that the indicated diminished crop inspired caution on the part of buyers. Shortly after, there seeped through the markets strong intimations of a possible removal of the processing tax on cotton. This was accompanied, virtually, by a half dozen rumors of various possible moves, all of which had the effect of causing manufacturers to feel less secure in any momentous commitments they might contemplate making. Then came official announcement of a prospective strike in the cotton textile industries. This should have precipitated an interest in yarns for future, but for the feeling of uncertainty which had been accumulating. On the other hand, as was pointed out by important yarn factors, spinners were not eager for contracts at the then prevailing prices, and to some, no form of contract would have looked attractive, in view of some of the experience with market recessions following acquisition of yarns when supplies for future seemed a 50-50 risk.

Carded yarns were the first to respond to the estimated lighter cotton crop. Prices advanced one to two cents while tickers in cotton exchanges were recording the speculative moves by a semi-frenzied element. That was when yarn buying began to ebb, and ebbing continued for perhaps a week, when prices accepted by spinners, in certain instances, represented a loss of virtually all of the gain following the crop estimate appearance.

It appeared that some spinners had carried price advances a trifle too far, as on a previous occasion, and with like results. In any event, it was stated by Philadelphia merchants that they were selling small lots of carded yarn on the basis of 28 to 28½ cents for single 10s on cones, while getting no response to offerings at 29 cents, the price set by one or two spinners as their reaction to a curtailed cotton yield.

Knitters were for the time out of the market, some pleading lack of underwear orders, others having substantial weights of unused portions of contracts placed in May. Philadelphia yarn merchants have little call for carded yarn for hosiery purposes and necessarily do not have intimate knowledge of that division, while being but little closer to the market for combed yarns for the hosiery trade.

During the light movement of yarns, the trade in discussing the market aspects usually speak of yarns as an entirety, sparing themselves the trouble of classifying them by the uses to which they may be put, whether of weaving or knitting numbers. In fact, in recent weeks, it seemed the two groups were almost on a parity so far as related to demand. Philadelphia buyers were credited during the quiet situation with operating more freely than New York state interests, notably in the Mohawk Valley, where ordinarily in the late summer knitting yarns are taken on in relatively larger quantities than in the Philadelphia sector, where tapestry, upholstery and carpet mills consume very large quantities of carded when trade is running along smoothly.

Although underwear manufacturers were placing very little new business in August, some were calling in yarn against contracts, on the theory that in the event of a strike in the cotton textile industry yarn in the mill would be a better asset than if it were on contract, still in spinners' warehouses. Specifications against contracts, some of them rating as antiques, enabled some of the spinners to reduce their stocks.

Combed peeler yarns continued to lag, and while prices showed some improvement, spinners having considerable holdings of certain counts were reported accepting offers one to two cents under the quotations of rivals. For example, while one establishment was quoting 47 cents for 38s single combed, another was standing pat on 48, and a representative for still another spinner sold at 47. Quotations on 30s were 44 cents and one cent higher and lower. The market on combed yarns appeared to be engaged in an unorganized hunt for orders.

Fair shipments of mercerized yarns were reported at times in August, the business available being confined mostly to small lots, however. Reports of sales of under-priced yarns were heard in the trade, a few sellers quoting two to three cents more than they were accepting. A pivotal number—60s/2 mercerized—was variously quoted, in a range 68 to 72 cents. Reports of sales at less than 68 did not affect the market, and it appeared that the range 70 to 72 cents represented the field in which prices were being accepted. Trading in mercerized was at a slow pace, relatively, although at times the situation was one of near activity for some concerns.

### Worsted Yarns

Price is not mentioned in the code under which worsted spinners operate, while terms are explicitly stated, and the result is that in the past two months yarns have been selling at steadily declining prices, until spinners say they "cannot stand this thing much longer." Downward revision of prices for government controlled wool failed to stimulate buying of either raw wool or worsted yarns. Weavers of men's wear goods are reported turning to tropical worsteds for the 1935 light weight season, consuming a considerably less poundage of yarn. So much less fabric is being used in bathing suits that spinners foresee a diminished consumption of worsted yarns when eventually business in textiles shall be climbing the hill to recovery. Spindle operation last month was estimated at around 20 to 25 per cent of seasonal normal. Some yarns were being taken against old contracts, but very little new business was placed, and according to some spinners, it was impossible to price yarns intelligently.

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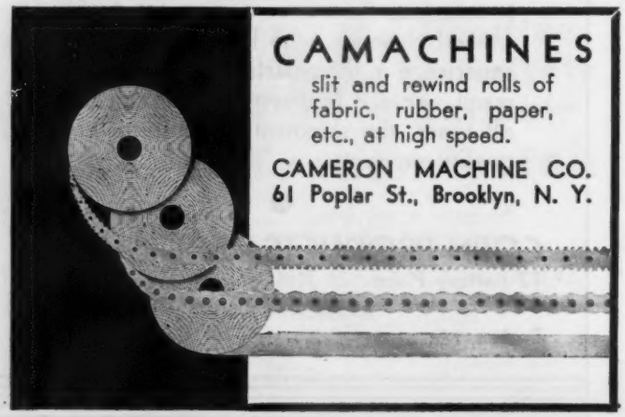
The high quality of ATLANTA BRUSHES is due to the use of new and improved equipment combined with expert workmanship, correct design, and the strictest care in the selection of proper materials. Notwithstanding this superior quality ATLANTA TEXTILE BRUSHES are now sold direct at lower prices. Write today for price list.

ATLANTA BRUSH COMPANY
*Manufacturers—Designers—Repairers of Textile Brushes*
Atlanta, Georgia



CAMACHINES
slit and rewind rolls of fabric, rubber, paper, etc., at high speed.
CAMERON MACHINE CO.
61 Poplar St., Brooklyn, N. Y.

HERMAS

**We will exhibit an unusual, new clothroom machine at the Textile Exhibit at Greenville, S. C. --Space No. 132A.**

**Watch for announcement with complete details in October issue.**

SIGNED: ***Geo. H. Mason***
PRESIDENT
**HERMAS MACHINE CO.**
HAWTHORNE, NEW JERSEY
Southern Representative—
Carolina Specialty Co., Charlotte, N. C.

HERMAS

Unfenced next door

*But* CYCLONE FENCE KEEPS OUR PLANT SAFE

"Originally we put that fence up to stop petty thieving by having complete control of exits and entrances.

"Then we found it allowed us to put one of our night watchmen on a new job as warehouse man. The fence allowed us to keep our weather-proof stock in the yard thus providing added storage space.

"Next we noted we had no more loafers or unwanted visitors, thus avoiding possibility of injuries and consequent liability.

"Then came that riot in the next plant—but we needn't go into that.

"Our fence has been up several years now and apparently will be up for many more. That means the cost per year is and will be very small. It paid us to check over the claims, reputation and prices of Cyclone Fence Company before we had this fine job installed by a trained Cyclone crew and with no worry to ourselves."

A Cyclone Chain Link Fence, in spite of its low cost, provides a permanent safe-guard, with virtually no upkeep expense. You may become familiar with its many advantages without obligation. Today, write for complete information. Address Dept. C.

CYCLONE FENCE COMPANY
General Offices: Waukegan, Illinois
SUBSIDIARY OF UNITED STATES STEEL CORPORATION
BRANCHES IN PRINCIPAL CITIES
*Pacific Coast Division*
Standard Fence Company, Oakland, Cal.
*Cyclone—not a "type" of fence, but fence made exclusively by Cyclone Fence Company and identified by this trade-mark.*

Cyclone Fence
REG. U.S. PAT. OFF.

# The American Business Paper

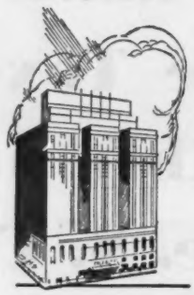
ONE of the vital reasons for the tremendous commercial development in the United States is the American business press. The American business man, manufacturer, wholesaler or retailer, is presented each month with a veritable encyclopedia of information in his chosen field. To the schools of America, and the daily press, as instruments of democratic education must be added our business press with its specialized service.

***Consider these features of well-conducted business papers, and their influence on the development of business technique:***

NEWS which, in the business paper, means the presentation of all angles of controversial matters; the rapid dissemination of information about new or improved products; the spread of knowledge concerning shifts in personnel in an industry, so important to all concerned; the exhaustive studies of conditions and trends which show in what directions industry is moving; the co-relation of specific developments in an industry with general movements in business; the technical information which, in any one issue of a competent business paper, might amount to as much as an individual could hope to gather in a lifetime; and over and above all this detailed material is the editorial comment, sifting, comparing, commenting, searching out the basic elements, organizing the mass of news and information into compact, usable generalizations.

**The American Business Paper is one of the evidences of America's willingness to learn. Like its widespread system of democratic education, the Business Paper serves an industry's need for impartial information, placing at each reader's command the same accumulation of data, for such use as he may make of it.**

**...HAVE YOU HEARD** *the one about the traveling salesman?*



He went to bed at the William Penn and slept twenty years! Well, maybe that is a little exaggerated. But anyway, the beds at Pittsburgh's number one hotel are so comfortable you don't ever want to get up. The food in the four famous restaurants is equally exceptional, and the prices reasonable. Quiet, well-furnished rooms, $3.50 single; $5.00 double, all with bath.

1600 ROOMS . 1600 BATHS

**HOTEL WILLIAM PENN**

PITTSBURGH, PENNA.



# When You Come to Cleveland

*The Carter Hotel, in the heart of Cleveland is conveniently located close to leading department stores, theatres, banks and transportation terminals.*

**Room Rates Begin at $2.50**

When next you visit Cleveland come to the New Carter Hotel. A warm welcome awaits you—prompt, courteous service and delicious food at reasonable prices. Six hundred large, comfortable outside rooms each with private bath and circulating ice water. Exceptional facilities for conventions and sales meetings. Personalized management.

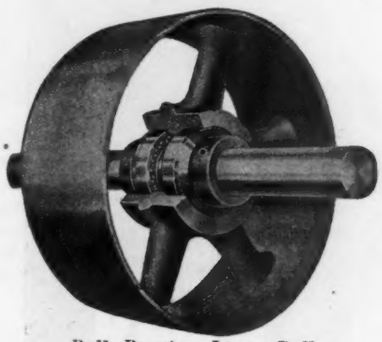
The **CARTER HOTEL**

PROSPECT NEAR EAST NINTH

CLEVELAND, OHIO

WILLIAM T. CRUSE, Manager

*Blower and Fan Bearings*



*Ball Bearing Loose Pulley*

# BALL BEARING
## TRANSMISSION EQUIPMENT
*using*
## Fafnir Ball Bearings

Drop Hangers — Post Hangers
Pillow Blocks — Loose Pulleys
Blower and Fan Boxes
Flange and Cartridge Units
Spinning and Twister Frame Boxes
and
Special Applications

*(Write for our Catalogue No. 11)*

## GOLDENS' FOUNDRY & MACHINE CO.
Columbus Georgia

*Also Manufacturers of*

Pulleys
Rope Sheaves
V-Belt Sheaves
Size Kettles
Continuous Dyeing Machines
Raw Stock Dyeing Machines
Cloth Inspecting Machines
Cotton Mill Castings

# A PROMISSORY NOTE

Greenville, S. C.
August 15, 1934

SIXTY DAYS AFTER DATE, WE PROMISE TO PAY TO THE EXHIBITOR AT

## ELEVENTH SOUTHERN TEXTILE EXPOSITION

GREENVILLE, SOUTH CAROLINA, PAYABLE THEN AND IN FUTURE YEARS AT THE FACTORY OF THE EXHIBITOR, WHEREVER IT MAY BE, WITHOUT OFFSET, INCREASED TRADE AND SATISFIED CUSTOMERS.

FOR VALUE RECEIVED,

THIS STATEMENT WILL NOT BE DISCOUNTED BEFORE MATURITY NOR AFTERWARD. INTEREST WILL BE SHOWN BY THE EXECUTIVES OF EVERY TEXTILE PLANT.

AN EXHIBITOR AT THE SHOW WILL SEE MORE EXECUTIVES, DEPARTMENT HEADS AND OPERATIVES IN TEXTILE HALL DURING THE WEEK OF OCTOBER 15TH TO 20TH, THAN HE COULD MEET IN ANY OTHER WAY, AND AT MUCH LESS COST. HE CAN ESTABLISH MORE CORDIAL RELATIONS WITH OLD CUSTOMERS, MAKE MORE CONTACTS WITH PROSPECTIVE PURCHASERS, AND GENERALLY OBTAIN MORE ADVERTISING VALUE FOR THE MONEY SPENT THAN IT WOULD BE POSSIBLE TO DERIVE OTHERWISE.

SOUTHERN TEXTILE EXPOSITION

THE DATES—OCTOBER 15 to 20, 1934

# A HOTEL ROOM SHOULD HAVE MORE THAN JUST FOUR SIDES

A ROOM is a room when it has four sides but at the Atlanta Biltmore the rooms have much *more* than four conventional walls.

That is why so many Biltmore guests always come back—because the rooms are so airy, so comfortable, even in midsummer (there are no court rooms); because the appointments are so complete, so luxurious; the beds so restful; and the service so prompt and unobtrusive.

Yes, and there's privacy at the Biltmore; even the lobby and mezzanine are so arranged that "timid souls" can be apart from the crowd if they so desire.

And you'll like the informal atmosphere that ever prevails—just be yourself and get comfortable (textile men can appreciate this).

Speaking of comfort, just dine on the garden terrace one of these warm nights and see for yourself how cool and pleasant it is to dine out under the stars.

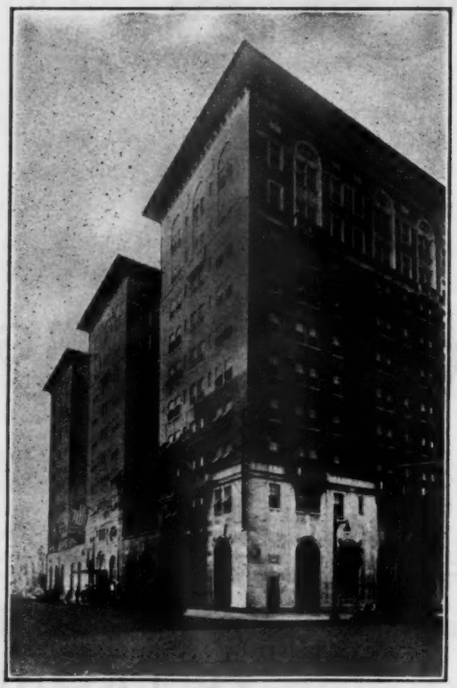
**Reasonable Rates:**
(No Court Rooms)
Single, $3, $4, $5
Double Beds, $4.50, $5.50, $6.50
Twin Beds, $5, $6, $7

**DINING ROOM:**
Breakfast, 35c, 50c, 60c, 70c.
Luncheon, 75c, 1.00.
Dinner, $1.00, $1.50.

# ATLANTA BILTMORE

*"The South's Supreme Hotel"*

# COMING TO PHILADELPHIA?



A SYMBOL

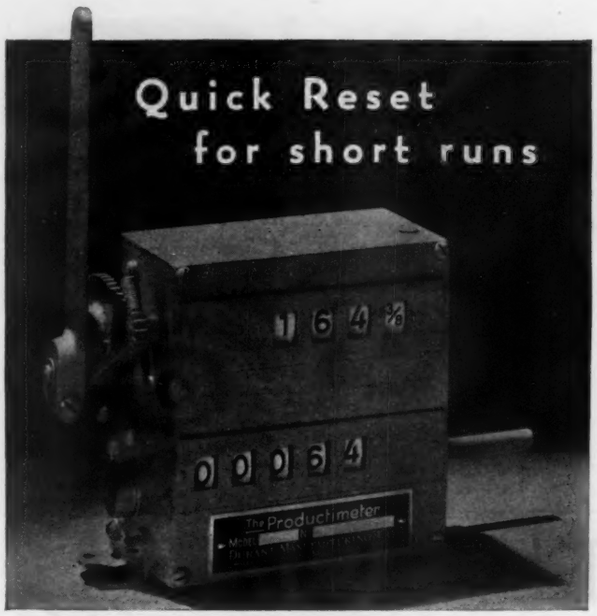
OF HOSPITALITY

When you visit Philadelphia make **HOTEL PENNSYLVANIA** your home . . . You will find its location convenient—ten minutes to the business section . . . away from congestion and noise. . . . Known the world over for its hospitality . . . food that satisfies.

**600 ROOMS, Each With Bath**
**From $2.50 Single, $4.00 Double**

## HOTEL PENNSYLVANIA

**39th and CHESTNUT STREETS**
**PHILADELPHIA**




**Cloth measurement in printing and finishing plants is made very easy and reliable by our new Quick Reset *Productimeters* with two decks. Each length of cloth is accurately run off on the upper deck. A flip of the lever resets the dials for the next run. A cumulative total is kept on the lower deck. Adapted to either rotary or reciprocating action.**

DURANT MFG. CO.

181 Eddy St.
Providence, R. I.

1922 N. Buffum St.
Milwaukee, Wis.

**Cotton Card Grinders.**
**Woolen and Worsted Card Grinders.**
**Napper Roll Grinders.**
**Calender Roll Grinders.**
**Shear Grinders.**

**B. S. ROY & SON CO.**
*Established 1868*
**Worcester, Mass., U. S. A.**

**ROY** TEXTILE GRINDING MACHINERY

# MOP? SLOP! STOP!!

Never efficient, mopping is no longer even cheap! Compared to the *Finnell* combination machine, mopping is in fact the most costly way of cleaning floors.

High speed brushes of this *Finnell* scour loose every particle of grime, grease and grit. Immediately the vacuum picks up the water, *before* the dirt can settle and deposits it in a tank. The floor is clean and dry in a few seconds. No mop splashes, no streaks, no slippery floors.

Replace the "mop and slop" method with this modern way of floor cleaning. It will reduce soilage and spoilage in your mill, enable you to get full use of your floor area and your equipment, and to keep your maintenance crew at a minimum.

*Demonstration Free!* One of our representatives is near you, ready to stage a free demonstration in your mill whenever you say the word. A wire, a letter will bring him. Or, if you prefer, allow us to send you full details by mail. Address FINNELL SYSTEM, INC., 1309 East Street, Elkhart, Indiana. Canadian Distributor: Dustbane Products, Ltd., 207 Sparks Street, Ottawa, Ontario.

Visit the FINNELL EXHIBIT Booth No. 110 Southern Textile Exposition, Greenville, S. C. Oct. 15-20

**THIS 2 IN 1**

**Machine is one of eight models, in a number of different sizes, comprising the complete *Finnell* Line. The right machine, to do a right job at a right price.**

# FINNELL

EST. 1906

**ELECTRIC FLOOR SCRUBBER—POLISHER**

"Smoother than Grease"
Since 1890

20 years without a drink—

ARGUTO OILLESS BEARING CO.
Wayne Junction, Philadelphia, Pa.

U. S. Pat. 1904316

THE *Best* PICKERS FOR YOUR LOOMS

Graton & Knight New 50 Type Pickers out-perform any other picker, and better performance means money saved. They are made in three thicknesses, all accurately maintained:

G & K 50-7/32" thick loop
G & K 55-3/16" thick loop
G & K 60-5/32" thick loop

Graton & Knight distributors located in every principal textile center carry complete stocks.

GRATON & KNIGHT

GRATON & KNIGHT COMPANY
Worcester, Mass.

# TRADING POST EXCHANGE

**BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES**

***DISPLAY RATES***

Rates are net, payable in advance each month. No commissions or discounts. Page is 3 columns, 10 inches deep—30 inches to page. Space measured by even inch vertically by 1, 2 or 3 columns in width. Column width 2¼ inches. Rates based on the total space used in one year.

| | Per Inch | | Per Inch |
|---|---|---|---|
| 1 inch | $5.00 | 15 inches | 4.20 |
| 3 inches | 4.80 | 20 inches | 4.00 |
| 6 inches | 4.60 | 50 inches | 3.80 |
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***UNDISPLAYED***

Advertisements set "Want ad" style. Positions wanted .05 word per insertion. Minimum charge $1.00 per insertion. Cash with order. All other classifications .10 word per insertion. Minimum charge $2.00 per insertion. Advertisements of equipment, for sale, rent or wanted and professional cards are accepted at display rate only.

Box number addresses care of COTTON, Grant Bldg., Atlanta, Ga., count as eight words.

**Products Wanted**

One of our clients, a New England manufacturer with a sales organization contacting textile mills throughout the world, desires to manufacture and sell accessory of merit, preferably covered by strong patents, and applicable to existing looms or other textile machinery. Strictest confidence observed.

**William L. Fletcher**
8 Newbury Street,
Boston

**BETTER TEXTILE MACHINERY AT A GREATER SAVING**

With 25 years experience with largest textile machinery builders, designing, engineering and selling—with knowledge of how to secure machinery at the greatest savings and how to save time and expense in shipping—We are able to render our clients a service they cannot secure elsewhere. Tell us what you want.

GEORGE F. LANGEVIN, 20-22 Howe Bldg., LOWELL, MASS
*Specializing in Textile Machinery for Relocation.*

**WANTED**

Salesman to sell Textile Machinery in North and South Carolina. Southerner preferred, with mill experience — Give age and salary desired. Address Box 126, care of COTTON, Grant Building, Atlanta, Ga.

**SALESMAN WANTED**

Man of wide acquaintance among Textile Mills in North and South Carolina. Some technical knowledge and practical experience in bleaching, dyeing and finishing of fabrics necessary. Apply in own handwriting, giving age, references, previous connections, selling experience and salary expected. Address Box 124, care of COTTON, Grant Building, Atlanta, Ga.

**J. PRESTON SWECKER**
**PATENT LAWYER**
1101 Earle Bldg., Washington, D. C.

**—SALE—**

Surplus machinery, some as good as new, including RODNEY HUNT DYEING MACHINES, dryers, tigers, shears, brushes, presses, embossing machines, shafting, pulleys, belts, power plant equipment, splitters; in fact, almost anything required in a pile fabric mill.

COLLINS & AIKMAN CORP.
MANAYUNK, PHILADELPHIA, PA.

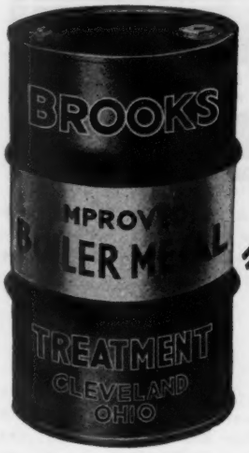
**POSITION OPEN**

Southwestern Specialty Mill offers place for a cloth room overseer. Give complete details and salary request in application. Address Box 125, care of COTTON, Grant Bldg., Atlanta, Ga.

**Paul B. Eaton**
PATENT LAWYER
1408 Johnston Bldg., Charlotte, N. C.
514 Munsey Bldg., Washington, D. C.
Former Member Examining Corps
U. S. Patent Office

**"Cotton Mill Machinery Calculations"**

EVERY Textile Man should have these reference books. They cover in a detailed and thorough manner all calculations necessary to be made on any cotton mill machinery manufactured in the United States and constitute one of the best references on the subject obtainable. The two volumes are illustrated with 45 diagrams and contain 21 reference tables. Strong, serviceable binding. You can secure them in conjunction with a three-year subscription to COTTON.




# For Real Economy in Your Boiler Room

## *Less Coal Less Repairs*

Your boiler room is probably the most wasteful department in your mill if your boilers are not kept free of boiler scale. Your engineer doubtless does the best he can to keep down scale but mechanical devices, water treating chemicals, etc., cannot keep scale out.

Brooks Improved Boiler Metal Treatment is a certain and sure, non-chemical, mechanical-acting scale remover which leaves a film over the clean metal to which further scale will not adhere, and which prevents corrosion and pitting. Write today for our 60-day trial offer.

**The Brooks Oil Co.**
CLEVELAND OHIO



# COLE

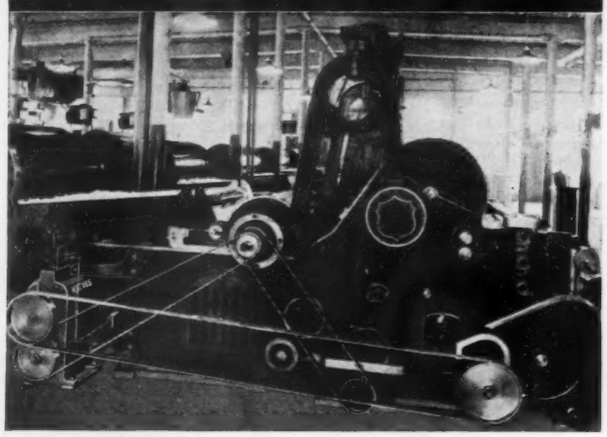
TANKS and towers constructed by COLE have been erected and have given long years of efficient, trouble-proof service in every section of the country. They are designed to meet any requirement. Let us quote you on

*TANKS TOWERS*
*BOILERS KIERS*
*ACID TANKS*
*STAND PIPES*
*SMOKE STACKS*
*CHEMICAL VESSELS*
*OIL TANKS*
*AIR RECEIVERS*
*WELDED PIPES AND TANKS*
*MONEL TANKS, KETTLES*

R. D. COLE MANUFACTURING CO.
NEWNAN *EST. 1854* GEORGIA
*FABRICATORS OF STEEL AND ALLOY STEEL PLATE*



# NEW PICKER is REEVES-controlled for UNIFORM lap



*Above:* H & B One-Process Picker at Ann & Hope Mill of Lonsdale Co., Lonsdale, R. I.

*Left:* Enclosed Vertical Design REEVES, used in H & B Picker—one unit in a complete range of REEVES designs and controls.

THE REEVES Variable Speed Transmission with Mechanical Automatic Control contributes an essential part to the high productive efficiency of the new One-Process Picker developed by H & B American Machine Co., Pawtucket, R. I.

The H & B system, in which the REEVES Transmission is incorporated as standard equipment, makes possible even laps of uniform density throughout.

Unique among one-process picking systems, the H & B method provides two-fold evening. The first evener controls the speed of feed rolls and provides for uniform opening. The second evener, in the delivery section, regulates the speed of the calender through the REEVES.

A thick or thin place in the sheet of cotton automatically causes increase or decrease in the speed of the REEVES and hence in the speed of the calender rolls, thus compensating for inaccuracy in the lap. Moreover, the REEVES is absolutely positive in transmission of power—no belt slippage, no loss of production as on cone type eveners.

*Here is another instance of increased machine efficiency made possible by simple installation of a* REEVES *Transmission. What machines in your plant need a wider range of speed selectivity? Our engineers will gladly show how easily these machines may be* REEVES*-equipped.*

**SEE OUR EXHIBIT—SPACE 232—SOUTHERN TEXTILE EXPOSITION, GREENVILLE, S. C., OCTOBER 15-20**

# ★REEVES★

## Variable Speed TRANSMISSION

THE TEXTILE INDUSTRY'S PROVED UNIT FOR ACCURATE, POSITIVE SPEED CONTROL

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## SHOULD BE CONSIDERED IN YOUR PLANS FOR
## *new patterns and styles*

"THE other man's cost may be your profit"—particularly when every machine hour is made to yield the largest possible output. Controlled spinning rids Dixie durene of those weak spots, those knots and slubs, that stop machines during already restricted running hours. In these days that is a valuable production advantage.

Controlled mercerization makes Dixie durene compact and lustrous—that helps the appearance of your merchandise. This same controlled processing makes Dixie durene elastic, absorbent and strong. These help put value into your goods. Fine appearance and value are important sales advantages in any kind of a market.

When it's styling time around your mill, Dixie durene should be seriously considered. It offers you *both* production *and* selling advantages.

**DIXIE MERCERIZING COMPANY**

CHATTANOOGA, TENNESSEE

DIXIE DURENE — A Product of Controlled Manufacture

# ARATEX GUM ●

REG. U. S. PAT OFF.

## FINER DISCHARGE ● PRINTING ON YOUR FABRICS

### COTTON ●

ARATEX GUM sharp-cuts the outlines—Penetrates deeply—Discharges to the clearest whites and washes out easily in plain water. No special washing is necessary. The goods are left soft and pliant.

### RAYON ●

ARATEX GUM sharpens the print designs on Rayon. It penetrates more deeply than usual thickeners and easily disperses upon steaming.

### SILK ●

ARATEX GUM brings clearest whites to Pure Dye and Weighted Silks—assuring sharp figure definitions, and after washing, returns the material to its original softness and pliancy.

ARATEX GUM is a departure from ordinary types. It doesn't dry out—and there's no waste. You can use ARATEX GUM right from the barrel—without heating or any preparation.

*TRY IT!—and swing into quicker, simpler and better results.*

**ROYCE**
**CHEMICAL COMPANY**
*Chemical Manufacturers*
**CARLTON HILL, NEW JERSEY**

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